ABSTRACT OF TWO

Lectures

ON

POTT'S DISEASE OF THE SPINE.

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IT would be futile to attempt to discuss fully in one or two lectures the history, etiology, pathology, symptoms and treatment of Pott's disease, and I shall not try to do so, but will confine myself chiefly to a consideration of some of the more important points in the diagnosis and treatment of this malady. Caries of the spine was known to the ancients and is mentioned by Hippocrates, but it was reserved for Percival Pott in 1779[1] to fully describe it. It has long been considered to be associated with the strumous diathesis and is now, in common with other strumous bone troubles, recognised as a local manifestation of tuberculosis, though we may be hardly prepared to find that out of 185 cases in which this point was investigated by Gibney of New York he got a history of tubercle in one or both parents in 76 per cent. Both sexes are liable—males slightly preponderating, according to most authors. The disease is rare during the first two years of life, the third year being that in which the onset most frequently occurs, and the frequency diminishes in each succeeding lustre; and, although there is a general agreement among authors as to this relative liability, the figures given differ remarkably. An analysis of the last 320 cases treated at this hospital shows that there were 151 males and 169 females. Of these cases 115 occurred in the first five years of life, and 200 before the end of the tenth year. After adult age cases are rare; the onset may, however, occur at any age, up to even seventy-three, as recorded by Dr. Ogle in the case of a well-known ecclesiastic.[2] Which region of the spine is most frequently attacked? There is no doubt that the dorsal region is by far the most liable. All observers are substantially agreed on this point. The lower six dorsal vertebræ are more often attacked than the upper six, or than the lumbar or cervical region. The lumbar region comes next in order of frequency, and last the cervical.

Like other strumous bone troubles Pott's disease is often the outcome of the inflammatory reaction following on some perhaps slight injury and it most often happens that the patient's friends consider the disease as the result of a fall or tell you that it comes of his having been dropped by a nurse. In 845 cases Taylor found a history of injury in 53 per cent (447). It should, however, be borne in mind that all active children are liable to falls and I believe that if the parents of a large number of healthy children between the ages of two and ten years were interrogated more or less severe falls during the previous twelve months would be recorded in a large percentage, if not in 50 per cent. of cases. The disease may have its seat in the bodies or the arches of the vertebræ. These latter are rarely affected and their destruction in whole or part does not produce the serious deformity that follows destruction of the bodies. I have here several sequestra removed from the right lamina of the seventh dorsal vertebra in a girl aged fifteen now in the hospital.

Abscess is in my experience not so common a complication of Pott's disease as is generally supposed and among 187 cases treated here as out-patients I find only 7 in which abscess is recorded. Among in-patients abscess is far more common (21 in 133 cases), evidently because many cases are admitted because they have abscesses, which otherwise would be treated as out-patients. Pus must in most cases be formed during the course of the disease and the records of post-mortem examinations show that abscess frequently exists without any external evidence of its presence being given. Thus Mohr found abscess in 30 out of 61 necropsies and Nebel in 56 out of 82. An abscess may reach the surface in the pharynx in the case of cervical caries, in the loin in lumbar or dorsal disease, and following the sheath of the psoas may appear in the groin or at any point below Poupart's ligament. Abscess may cause obvious swelling in the anterior surface of the abdomen, or may pass over the crest of the ilium and appear on the buttock. Abscesses have also been known to make their way into the lung, trachea, bronchi, alimentary canal, or bladder, or burst into the peritoneum or larger vessels. These abscesses contain pus, serous or sero-purulent fluid, or cheesy or cretaceous matter and sequestra. Spontaneous cure is the end of the majority of vertebral abscesses, if we include those which give no external sign of their presence.

For convenience the course of the disease may be divided into three stages—(1) Inflammatory; (2) loss of substance; and (3) consolidation. In the earlier stages of Pott's disease, before there is any loss of substance, the symptoms are so vague and so often overlooked that, especially among the lower middle and working class, advice is seldom sought until there is obvious deformity. Pain, localised or referred to the periphery of the spinal nerves, is not in my experience a common symptom at any stage of the malady, and it is surprising that such extensive disease, involving one of the most important bony structures of the body should be so little painful. Tenderness on pressure over the spinous processes is also rare, and the hot sponge described as a test in many surgical text-books is of little diagnostic value. Peculiarities of gait and attitude and departures from the normal in the mobility of the head and trunk are the symptoms which are the most characteristic. In whatever part of the vertebra or vertebræ the disease begins the affection sooner or later reaches a part where the inflamed structures are interfered with by motion and the irritation caused by movement tends to aggravate the inflammatory process. The efforts of nature, as in hip-joint disease, seem directed towards procuring physiological rest for the part by the involuntary contraction of the appropriate muscles. Hence in the spine, as in the hip, we have stiff joint as an early symptom due to muscular action and stiff joint as a final result due to ankylosis. The parallel holds good, although Pott's disease is not primarily a joint affection. This contraction of the muscles produces rigidity of the part of the spine affected and often of the greater part of the column. The wider the range of movement in health the more marked and obvious is the stiffness in caries. Consequently, when the cervical region is the seat of disease the stiff neck is at once noticed by the friends, whereas in the dorsal region rigidity may be overlooked for months until the case is examined by a surgeon. The patient in the early stage of cervical caries—say, in the middle of the region—if directed to look over one shoulder turns his whole chest, the movement occurring in the loins and hips. Flexion and extension of the neck is no longer practised. Nodding, although limited, may be possible, and if the upper cervical vertebræ are affected voluntary flexion and extension are impossible, the head and neck forming one rigid rod. A characteristic attitude seen in some cases of cervical disease is that in which the patient rests his elbows whenever he can possibly do so, and takes the weight of his head off the inflamed structures by supporting it in the palms of his two hands. He sometimes, if a child, "squats" in oriental fashion and stooping forwards holds his head while his elbows rest on his knees. Patients with caries in the neck walk with a peculiar air of anxiety and, carefully avoiding any jar or shock, may be said, like Agag, to go delicately.

In the first stage in the dorsal region the patient will avoid bending the back, and if the disease be severe it will be noticed that he takes some of the super-incumbent weight of head and upper extremities off the inflamed structures by resting his hands on the seat of the chair on which he sits, on a table or on any available object. Sometimes the child will lean the body (without bending it) forwards and rest his hands on his thighs, the hip and knees being slightly bent. If a patient is asked to pick up anything from the floor he will generally keep the trunk perpendicular and sink down by bending the knees and hips until his hand is within reach of the ground. This is very characteristic. With disease in the lumbar region the gait and posture are much the same as in the dorsal, but the upper part of the spine is less rigidly fixed. In the lowest dorsal and lumbar region, psoas contraction is apt to occur and this may be the only marked symptom besides rigidity. This contraction causes lordosis if the patient is old enough to walk about. If you tell the patient with dorsal caries to try to touch his toes without bending his knees—and this test is not available in young children—he will be able to go only a very little way and will keep his back stiff, and in lumbar caries this stiffness is still more marked. If a child suspected of Pott's disease be laid

[1] Remarks on that kind of Palsy affecting the Lower Limbs.
[2] Pathological Transactions, vol. xv., p. 20.

prone on a couch and the surgeon holding the ankles lift the lower extremities and pelvis while the upper part of the chest remains on the couch on which it rests as a fulcrum, should the spine be of normal mobility a general curve will be formed from the shoulders to the hips, while the thighs will be further extended. In Pott's disease, however, the trunk will remain rigid and the thighs slightly flexed and the patient generally resists the manœuvre. Pain is very variable in the first stage of Pott's disease. In some cases the child cannot be moved without pain and the friends will say that it never seems easy and constantly cries unless it is lying down. In some children night cries occur; in others pain may be referred to the distribution of the spinal nerves of the part. Thus with disease about the seventh dorsal vertebra epigastric pain is complained of and sometimes vomiting occurs; in others there is pain over the hip (twelfth dorsal), and in lumbar disease the anterior crural or other lumbar nerves may be irritated and pain be referred to the thigh &c. In general the story told is that the patient has been ailing for some months, has been fretful and easily tired, and cries when moved roughly, but no very sharply localised pain is often complained of. The classic test, which consists of making the patient jump off a small height on the heels or drop on to the heels from tiptoe is not to be recommended; if there be active disease it will do harm, although, as a rule, in such a case the patient will not put it in practice when told to do so, and it is not always easy to get a healthy child to do it. The practice of pressing on the head in suspected disease high up is equally to be condemned and is yet more dangerous. As the first stage merges into the second alterations in the form of the column occur, causing in the dorsal region an exaggeration, in the cervical and lumbar an obliteration, of the normal curves or their reversal. Before this has gone very far all doubt of the nature of the disease is set at rest when the other usual symptoms are considered. One spinous process is soon found to project from the line, forming a boss, and as the bodies of the vertebræ on each side of the area of destruction fall together other spinous processes on either side become more prominent until a knuckle-like angle is formed. But it must not be forgotten that an irregularity of the line of spinous processes or marked projection of one or more of these is perfectly consistent with health. In that case, however, there is normal or sometimes more than normal mobility. This irregularity is, however, very different from the pronounced salient angle which develops in the later part of the second stage. But projection of one or more spines in the dorsal region, below the first two dorsal, is almost always pathological and presumptive evidence of caries. It is commonest in the lumbar region.

The backward projection in Pott's disease is not infrequently accompanied (as Lovett of Boston, U.S., has pointed out) by a lateral deviation from the mid line and a mistaken diagnosis may be made in such a case. The mobility of the column in slight or moderate lateral curvature and its rigidity in caries should prevent mistakes. Also rotation of the spine is absent in caries. Strain of the back may suggest early Pott's disease. If there be any doubt in such a case it must be treated as though caries were present. Time will clear up the doubt. In the posterior curvature which occurs in rickety infants there is generally mobility enough to exclude Pott's disease, but in some cases the differential diagnosis is not easy.

In disease of the cervical vertebræ the head is sometimes held awry, and such a case may be mistaken for torticollis. The freedom of movement within certain limits in the latter deformity quite negatives caries. A careful examination of the parts will, by showing the seat of the trouble, help to distinguish between hip disease and psoas-contraction in lumbar caries, or between the latter and sacro-iliac disease. In hysteria rigidity of the spine may simulate Pott's disease. The hyperæsthesia and absence of the typical symptoms of caries, such as resting the weight on the hands and the detection by careful observation of mobility when the patient is off her guard, will help in diagnosis. In rheumatism of the spine the local pain and the long-standing rigidity, without angular deformity besides the general constitutional state, are the chief guides to a diagnosis. That the diagnosis is not always easy is shown by the occasional occurrence of lamentable mistakes, as in a case reported by Mr. Edmund Owen.[2] In Dr. Ogle's case, before referred to, no suspicion existed during life of the extensive disease of the axis and neighbouring parts which was found after death.

As a means of recording the progress of the deformity an outline of the contour of the spine should be taken by means of a flexible strip of lead, which is applied to the back—preferably while the patient is lying down—so as to lie closely in contact with the skin over the apices of the spinous processes. This strip of lead must be stiff enough to retain (with careful handling) the form thus acquired and is to be used as a guide to pen or pencil when laid on its edge on a piece of paper. The outline thus obtained is preserved for comparison with future ones. Another way of using the outline is to trace it on a piece of cardboard. The card is then cut through along the line, and the template thus formed is applied to the spine. If it does not exactly fit it must be modified by means of scissors. When accurate it is to be kept as a means of detecting the slightest alteration in contour. In dealing with very young children it will be found convenient to warm the lead to the temperature of the skin by immersion in a bowl of warm water. In the third stage the angle has reached nearly its maximum and the spine consolidates and only a slight alteration takes place in the contour here, but changes occur in the healthy parts of the spine, producing what are known as compensatory curves. These may go on increasing for years after active mischief has ceased.

The treatment of Pott's disease in its active phases, like that of other inflammatory bone or joint mischief, should be mainly directed towards securing complete physiological rest for the injured part, and in most cases all that is needed is to second the efforts of the patient, both voluntary and instinctive, which are directed to the same end. In a disease which tends so often to end in spontaneous recovery—we have had six deaths from all causes in 133 cases admitted as in-patients—radical operative measures on a part so deeply seated as the anterior half (the vertebral bodies) of the spinal column can seldom be justifiable; and although, since Israel's operation in 1882, Treves and others have operated on the seat of the bone lesion in a good many cases, the results are not such as to make the operation preferable to expectant treatment in most cases. In practice it is only in the lumbar region that the bodies of the vertebræ are at all freely accessible; and in the dorsal region, which is attacked in so large a proportion of cases, it is only by resection of ribs that the operation is feasible. It is also extremely difficult to remove the diseased parts thoroughly and safely, and without this an operation must be looked on as a failure. Rest—i.e., arrest of motion of the diseased part—is sought after in various ways, each of which has its advantages, by recumbency, by extension and fixation. Complete recumbency in the supine or prone position is advisable, for a time at any rate, in the first stage of disease in most cases, while in the severe cases, where there is marked constitutional disturbance it is a *sine quâ non*. Its advantages are that it is simple, requires no apparatus and no special skill to carry it out, while it removes the weight of the parts above from the affected part of the spine to a more complete extent than any portative apparatus can do. Its drawbacks are that it prevents the patient taking exercise, that it is in young children difficult sometimes to maintain, and that the confinement to bed that it involves may be prejudicial to their health and may retard or prevent recovery. In most cases in the early stage patients are better without exercise, and by the use of the bed frame children can be easily prevented from sitting up. The bed frame consists essentially of two blunt hooks of ⅜-in. iron rod jointed at the shank ends to a flat iron bar, the length of the distance between the patient's axillæ (shown). The upper ends of the arms rest in these hooks, to the extremity of each of which a padded strap is fixed, which passes over the shoulders and buckles to the shank of the hook. The flat iron bar rests on the bed, below the nape of the neck, and the whole is attached to the head of the bed by simple means. Though principally meant to be used as a means of counter-extension when weights are used it is useful in simple continued recumbency to restrain young patients without interfering with the use of the arms. Extension may be made by weights attached to the feet, the bed frame being used for counter-extension, or the weight of the body, when the foot of the bedstead is raised up, may itself supply the counter-extending force. Instead of thus hanging, as it were, the body by the feet, which has obvious disadvantages, we may hang it by the head and upper extremities and this can be most conveniently done by using the suspension couch. This

[2] THE LANCET, Jan. 30th and Feb. 20th, 1892.

allows constant extension to be practised while the patient is in the sitting or reclining position, a method of treatment introduced by my colleague, Mr. F. R. Fisher, in 1877.[4] This method has the great advantage that the patient when in the sitting position can see what goes on around in the daytime, while at night he can be lowered almost to a horizontal position. The exact regulation of the amount of extension is easily made by means of the rack-and-pinion movement. Another means of applying extension and in children a most convenient and efficient one is the box known by the name of Dr. Phelps of New York. This consists essentially of a Y-shaped trough of wood, suitably padded. The body of the child occupies the trunk of the Y, the lower limbs the two branches. The sides of the box are cut away just below the shoulders of the patient to allow his arms free play and the bottom is also cut away below the buttocks to facilitate the use of the bed-pan. By means of occipital and chin straps regulated by buckles counter extension can be made, the body weight acting as an extending force when the head end of the box is raised up, or by means of the anklets and cords extension can be made by pulling on the feet. The patient I now show you has been in such a box, modified by Mr. Ernst, for some weeks. The box is very light and easily carried about, and a child can even be taken to school in it and given as much fresh air as climate and situation allow. Experiments on the cadaver, both normal and affected with spinal caries, show that no practicable amount of force will effect immediate separation of the surfaces of the affected bones. I cannot but believe, however, that continuous and unintermitted extension with only a few pounds weight, and still more so when a large part of the weight of the trunk is employed, must in time, by tiring out the muscles, succeed in reducing or nullifying the pressure between the diseased elements of the spinal column. Clinically extension is most useful and its results encouraging. Fixation of the spine is sometimes attempted in the active stage by the application of gypsum jackets or by some other portable appliance. In most cases fixation or attempted fixation is ineffective unless the mischief be situated towards one end of the column.

In the later stages of Pott's disease portative appliances have their true and best uses. These consist of gypsum, poroplastic felt, leather or wooden &c. jackets or instruments made of steel and leather. These have as their object to support the spine and prevent further bending of the affected portion, and it is claimed for some of them that not only may the deformity be reduced by their employment but even in some cases totally removed. It has never been my good fortune to see this result. The gypsum jacket has the great advantage of low cost and simplicity, needing the help of no instrument-maker in its application and being made of common and easily obtainable materials. On the other hand, it is heavy and in its simplest form not removable and consequently dirty and disagreeable. It may, it is true, be made to open and lace down the front, but is even then not adjustable to any great extent, and if much modification, owing to changing conditions of the spine &c., is wanted a new jacket must be made. In consequence of objections the gypsum jacket is very rarely ordered in this hospital, where the poroplastic felt jacket may be said to have quite taken its place. This material has the advantages of lightness, great plasticity when softened by steam heat, sufficient rigidity at the body temperature and consequent adaptability to changing conditions, and the jacket is easily removable. It should be applied while the patient is suspended. A properly designed and constructed steel support is perhaps the best possible appliance for convalescent or consolidated Pott's disease, but it has the disadvantages common to all elaborate instruments that it needs special skill and experience on the instrument maker's part and also on the surgeon's to secure a good result. Jackets and steel supports, unless they extend to the head and thus relieve the spine below of some of the weight of that organ, are of little or no effect as a means of longitudinal extension, and in children, even with the head-piece or jury-mast, the pelvis is so little developed that it is difficult or impossible to get a proper basis or point of support for counter-extension. These appliances must therefore be chiefly useful as a means of extending the spine in the sense of diminishing the abnormal curve or angle, in the same way that a splint is sometimes used on the outer convex side of the leg to straighten a curved tibia. Gypsum and poroplastic jackets can, however, do little more than support the trunk, while a steel support may be made to press on the projecting angle, and by means of a pelvic band and shoulder-straps and a laced chest-piece counter-pressure at the ends of the lever can be obtained and further deformity be more surely prevented, or the existing angle be perhaps in some cases diminished.

In cervical and upper dorsal disease an extension of the apparatus to the head is imperatively needed, and for this purpose the occipital support with the chin and forehead straps is better than the overhead jury-mast, in that it more thoroughly immobilises and extends the cervical spine by using the occipital piece as a point of support for the head. It is also less unsightly and far less in the way. In high cervical disease one of the forms of collar which transfers the weight of the head to the shoulders may be used late in the disease, while in the acute stages recumbency, with sandbags to support the neck and prevent movement, is a classic and effective treatment, and the higher the disease the more complete should the rest be. A small, firm pad, as Mr. Hilton long ago pointed out, should be placed under the upper part of the neck to support the vertebræ in the normal anterior curve of that part and in atlo-axoid disease—happily rare—to prevent pressure on the medulla by displacement of the odontoid process.

In the dorsal region (lower two-thirds) Phelps's box or recumbency, with extension by bed frame and weights, is the best treatment during the active stages of the malady. When consolidation begins a poroplastic jacket or well-fitting steel support is advisable. In the loin the disease as a rule results in less deformity than elsewhere, because an obliteration or even reversal of the lumbar curve is much less obvious in its effects on the appearance and attitude of the body than alterations of form in the neck or chest, and the alterations of the normal loin curve are not often great, no doubt because (as Bradford and Lovett point out) the bodies here are very large and are not often completely or even extensively eaten away by the disease. In this region simple recumbency gives good results, while it is obvious that, owing to the nearness of the trouble to one end of the lever, it is difficult to exert antero-posterior extension by supports. Owing, however, to the length of the unaffected parts of the spine above, of which we can take hold by a jacket or instrument, mechanical support is more efficient here than in the dorsal region. A poroplastic jacket may be made by careful moulding and firm lacing to fit to the ribs at the sides and back so closely as to offer considerable support to the upper part of the trunk, some of the weight of which is thus transmitted to the hips direct. All jackets and instruments should be removed at night or at other times when the patient is recumbent, because they are not then needed, and also to allow the chest walls full play and counteract, as far as possible, the necessarily constringent effects of the jacket during the time it is worn. The "life" of a jacket is also prolonged by thus saving unnecessary wear and tear.

After consolidation is complete little or no change occurs in the gibbosity formed by the ankylosed vertebræ, or remains of vertebræ, but gradual changes in the "compensatory" curves which occur in the sound parts of the column above and below the projection go on for some time, unless prevented by a well-fitting and firmly applied support. These compensatory curves are the result of the erect position, in which without them the centre of gravity of the body and especially of head and upper extremities would be placed too far forward for stability; the gibbosity is therefore thrown backwards and the vertical through the centre of gravity made to fall within the base by the curves above and especially below (lordosis), but in some cases of dorsal disease instead of compensatory curves the lines of the angle are continued as it were above and below, and the whole trunk is thrown backwards by movement in the loins and at the hips, so as to attain equilibrium and much to exaggerate the apparent deformity; a proper support should prevent this. The chief complications are abscess, paralysis, psoas contraction. Abscess is a serious complication of Pott's disease and four modes of dealing with it present themselves: (1) Expectant treatment; (2) repeated aspiration; (3) injection of fluid to promote absorption; (4) incision. Expectant or, as it may be called, passive treatment should always be tried and persisted in as long as an abscess is not rapidly increasing or showing a disposition to point, and not a few chronic cases will do well under this treatment. It must be remembered that psoas and, in a less degree, lumbar and iliac abscesses differ in many circumstances from those in other parts of the body and those from other causes, and cannot often be dealt

[4] Essays on the Treatment of Deformities, Churchill, 1879.

with according to the general rules of surgery. In the first place the sac cannot freely be laid open nor the tissue lining it be safely completely excised. The channel communicating with the focus of disease is a long one and often tortuous, and there are often diverticula and other sacs communicating with that which is apparent externally by perhaps minute openings. Add to this the neighbourhood of important structures and the difficulties in the way of radical treatment are at once appreciable. In some cases, when an abscess has existed for a long time, it may have become cut off from its original source and be nothing more than a localised collection of pus, which is easily cured by incision. Aspiration will only remove the serous or more fluid parts of the contents, leaving the cheesy or curdy masses, which are more important, behind, and even evacuation of the fluid by aspiration may be hindered by the blocking of the needle by flakes of lymph or curdy masses. Aspiration, however, will, by reducing tension, put off the evil day of rupture. With antiseptic precautions simple incision, repeated if needed, is to be preferred to aspiration. Injection with iodoform glycerine or iodoform and ether is a means of treatment that has lately found favour in Germany—from 30 to 100 grammes (seven to twenty-five ounces) of a 10 per cent. solution being injected through an aspirator needle, the abscess having previously been emptied. Bruns claims fifty cures in fifty-four cases, and the treatment appears certainly worthy of trial. Iodoform poisoning is stated hitherto not to have been observed. For retro-pharyngeal or retro-œsophageal abscess incision is the best treatment, on account either of accessibility or danger to life. In lumbar abscess incision is more useful than in psoas abscess, as the sac is likely to be less extensive and complicated, and drainage is here much more complete. Lumbar incision may also advantageously be practised in abscess pointing in the groin, an incision being made at the outer side of the transverse processes of the vertebræ in the loin through the fibres of the quadratus lumborum. Pressure on the abdomen and groin will cause bulging of the sac, which may then be proved by an aspirator or grooved needle and then freely opened; if easily accessible the carious vertebræ may at the same time be attacked and scraped. Ismel's case was of this kind; the canal was opened, liberating pus, but the patient died from empyema. In slow chronic cases, despite risk of lardaceous disease, a less heroic treatment is to be recommended.

Paraplegia as a complication of Pott's disease too often occurs, although in 133 cases treated here as in-patients I find it noted in only 10; paresis is mentioned in 8 cases. Of the 10 cases 7 recovered, while of the paresis cases 6 are recorded as recovered, no mention being made in the seventh of the paresis; probably it had disappeared. The lower extremities generally alone suffer, motor power being often completely lost, while sensation may be impaired but is seldom lost. Control over the sphincters of the anus and bladder is often lost; the knee-jerk is generally absent. The upper extremities are also in cervical disease occasionally palsied, yet they may recover. Spontaneous recovery under rest treatment is the rule even after a very long interval. The cause of the palsy is generally a pachymeningitis and not displacement of the vertebræ. Hence the contrast in prognosis between palsy from injury (fracture dislocation) and that from caries.

In the treatment of paraplegia rest and extension produce the most encouraging results. They may be applied when the disease is lower dorsal or lumbar, by weight extension in the recumbent position, or when it is above this by suspension from the head, and, if the body be heavy, also by the arms. The adult patient (twenty-two) you have just seen has been treated by the former method, the child whom you see by the latter method. Both had complete motor paralysis and loss of knee-jerk on admission and improved in general health under treatment. In the case of the child returning power was evident after a fortnight. Both can now (in July) walk about. I suppose that the improvement is not due to rest alone, from the rapidity with which improvement has set in when extension was applied, rest having, at least in the man's case, been previously tried. I presume that extension, by removing irritation and diminishing intervertebral pressure, allows the organism a chance to absorb the inflammatory products and thus alleviates pressure, more than by any possible straightening out of the distorted canal. Macewen advocated operative interference in pressure paralysis and operated by removing the laminæ and spinous processes. This operation has now been done some score of times, with a fatal or negative result in many cases.

It is probable that some at least of the successful cases would have recovered under other treatment, and, as Lovett and Taylor have recorded, that when palsy came on under treatment every case studied by them recovered, and that of all cases 83 per cent. recover without operation, it must be plain that the field for operation is a narrow one, applicable to otherwise hopeless cases. After years of palsy even patients may recover without operative interference. In one case under my care recovery occurred after two years of palsy. Contraction of the thigh sometimes occurs in dorsal or lumbar disease where psoas contraction has been marked, and prevents the patient's reaching the ground with the affected limb without flexing the whole trunk forwards, as compensatory lordosis, such as occurs in hip disease is either prevented by ankylosis or else the whole available mobility is employed in compensating for the dorsal gibbosity. To prevent this contraction extension should be applied early wherever flexion of the thigh exists. When deformity from contraction remains section of the offending muscles and fasciæ subcutaneously should be practised. In some cases it may be necessary to operate on deeper structures, which can only safely be done by open incision. The limb must be kept extended by a splint for some time. This splint may form part of any support fitted to the trunk so as to allow walking.

A REPORT ON

THIRTY-SEVEN CASES OF TUBERCULOUS DISEASE OF THE HIP-JOINT,

FOR WHICH EXCISION OF THE JOINT WAS PERFORMED IN THIRTY-SIX CASES.

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INTRODUCTION.

THE treatment of tuberculous disease of the hip-joint after it has advanced to suppuration is regulated by two main schools of thought. One considers it best merely to open and drain the abscesses as soon as they are detected. The other recommends that the abscesses should not only be opened, but that they should be cleared of tubercular material and that the tubercular growth should also be thoroughly extirpated from the joint, notwithstanding the fact that, in order to do so, it is usually necessary to remove the head of the femur. The relative merits of two methods of treatment have been much discussed in recent years, but the advocates of the rival plans are still, so far as we know, unconvinced by the arguments of the other side. *A priori* arguments and general impressions in regard to results will not carry conviction on a subject of this kind. Mere tabular statements of the results are also insufficient. The opponents of a particular method of treatment should be so completely supplied with the facts that they may estimate its merits and demerits for themselves. Such a report should deal with consecutive cases, which have been under treatment in sufficiently recent times to allow of at least the majority of them being traced; for it is surely just as reasonable to assume that untraced cases either are or have been under treatment at other hospitals or even that they are dead as it is to assume that all or the majority of them are cured because they have not applied for further treatment. Nothing further can be said of untraced cases than that they spoil the returns. Having these views in mind, we have not delayed our investigations to a time when the report might suffer conspicuously from untraced cases. This report deals with all the cases of tuberculous disease of the hip-joint which have been operated upon by one of us during the last six years. By making inquiries in the localities where the children used to live we have traced several cases which would otherwise have escaped us. We have only failed to find two patients. We have prepared abstracts of the notes

of all the cases. These, though of necessity short, include, it is hoped, all the important facts in regard to them. The condition of the children when last seen is pretty fully stated, and engravings, executed from photographs, are appended to the reports of the cases when the children have left off their splints and are going about, their wounds being healed.[1] In order to avoid repetition in the reports of individual cases, we shall first of all describe the plan of operation which was followed.

DESCRIPTION OF OPERATION.

The abscess, which almost always was found situated beneath the sartorius and tensor vaginæ femoris muscles, was first freely opened by an incision between these muscles and thoroughly scraped and scrubbed with sponges in order to remove the tubercular growth. The lower part of the abscess was then plugged, whilst the sinus which led into the joint, and which was usually found just above the neck of the femur in the angle between it and the great trochanter, was enlarged sufficiently to give exit to the pus and tubercular débris from the joint and to admit the finger. If the head of the femur was diseased, as it invariably was, the neck of the bone was divided with an Adams' saw and the separated head was raised from the joint with a curved elevator and removed. Care was always taken to divide no more of the Y-ligament than was necessary in order to remove the head of the femur, for it was considered that this ligament was one of the chief agents in limiting the inevitable displacement of the trochanter upwards. The cavity of the joint was then very thoroughly scraped with a sharp spoon and in some cases tubercular tissue was cut away with scissors. In the earlier cases repeated scrubbing with sponges was relied upon for the removal of the tubercular débris, but in the later cases the cavity of the joint was flushed out with water sterilised by boiling alone or, in addition, by perchloride of mercury in the proportion of 1 in 4000 either through Mr. Barker's flushing spoon or through a piece of rubber tubing. The cavity of the joint was then dried and, the wound being held open, a careful examination was made for any remaining tubercular growth with the aid of a strong light thrown into the cavity from a forehead mirror. By this means in a few cases tubercular foci were seen which would otherwise have escaped detection. Iodoform was applied to the joint and the cavity was tightly packed with sponges. After the stitches had been inserted the sponges were removed and the limb held in abduction. The sutures were then tied. In some of the cases a tube was inserted, but in others, following Mr. Barker's lead, no provision was made for drainage. In order to leave the cavity as dry as possible firm pressure was kept up about the joint until the dressing had been securely fixed with a moderately tight bandage. A double Thomas's splint made so as to maintain abduction of the limb was then applied. In the earlier cases the tube was not entirely removed for some weeks, in those about the middle of the series no tube was used, and in the later cases a tube was employed for about twenty-four hours. Immediate excision was not resorted to unless extensive and general disease of the joint was found. In some of the cases it was decided to deal with them as thoroughly as possible without excision, so as to give them a chance of healing without destroying the natural support of the joint. In all these cases with the exception of one, which is not included in this series, it was judged best to excise the joint at a later date on account of the unsatisfactory progress of the case.

The series of cases here reported refer to thirty-six patients. In one case both hip-joints were excised. We have therefore to do with thirty-seven radical operations for the removal of tuberculous disease from the hip-joint. Eight of the patients, or 21·6 per cent., are known to be dead. The mortality directly dependent on the operation was 10·8 per cent. (four patients). Of the remaining four cases two died of intercurrent affections altogether unconnected with tuberculosis and two died from other tubercular complications. There remain for consideration twenty-nine cases. Of these twenty-seven have been followed up; two could not be found. The report has therefore to do chiefly with twenty-seven cases. Seventeen of these are now healed and are going about without splints. They are subsequently referred to as completed cases. The remaining ten cases are still wearing Thomas's splints. Four of these appear to be soundly healed; six have a sinus. After the reports of the individual cases we propose to give an analysis of them under several headings in order to bring into relief the points both favourable and unfavourable which appear to us to be the most important and instructive.

[1] Owing to the length of this paper in its original form we are obliged to omit the abstracts of the incomplete cases; also some of the engravings.

COMPLETED CASES.

CASE 1.—C. R——, aged nine years. Disease of the right hip began at eight years of age. No cause was assigned. There had been no previous treatment. The patient was admitted to hospital one year after the onset of the disease with a large abscess behind the trochanter. The limb was adducted and everted but not flexed. The joint was excised through a posterior incision. The head of the femur and the trochanter were found diseased and the head of the femur and part of the trochanter were removed; the wound was drained with tubes. The temperature was normal throughout. The wound healed by primary union, except at the tube tracks; these healed by granulation two months after operation. There was a recurrence of the disease two years after the operation, the splint having been discarded for nine months. Carious bone was removed from the trochanter. The second and third secondary operations were performed six and ten months after the recurrence, and there was no further bone disease. The fourth secondary operation was performed eleven months after recurrence, an iliac abscess being opened. The fifth secondary operation was fifteen months after recurrence, with no further bone disease. The wound finally healed one year and four months after recurrence and three years and seven months after excision. A double Thomas's splint was worn for nine months after excision and a single Thomas's splint for six months more. The splint was resumed after recurrence and left off sixteen months after final healing. When the patient was last seen, five years and three months after excision (three years and three months after recurrence), the splint had been left off six months. The general health was fairly good. The real shortening was two inches, but the apparent shortening was only half an inch, the difference being due to abduction. The limb could be flexed to 10° and extended to the vertical. The patient walks easily with the aid of a stick. (Fig. 1.)

FIG. 1.

FIG. 2.

CASE 2.—R. B——, aged seven years. Disease of the left hip began at seven years of age; no cause assigned; treated previously with Thomas's splint for six months; again by weight extension five weeks before admission. Admitted to hospital fifteen months after onset of disease with abscess over trochanter. Limb was flexed and adducted and rotated

inwards. Joint excised by anterior incision; head of femur much diseased; head and part of neck of femur removed; drained with tube. Temperature normal. Healed in three months; no recurrence of bone disease. Small sinus scraped four months after excision. Finally healed five months after excision. Single Thomas's splint worn for twelve months after excision and then left off without sanction. When last seen, five years and two months after excision and four years and nine months after healing, splint had been left off four years and two months. Joint quite sound; real shortening two inches. General health fairly good. Joint could be flexed to 90° and extended to vertical. (N.B.—This patient developed disease of the other hip about four years and a half after excision of the first hip; this was treated at the Evelina Hospital, where the head and neck of the femur were removed. Owing to this the apparent shortening could not be taken, and the patient could not walk without crutches; but with them and a patten on the left foot she could get about comfortably.) (Fig. 2.)

CASE 3.—E. M——, aged six years. Disease of the left hip began at five years of age after a fall; treated with weight extension for two months before operation. Admitted to hospital ten months after onset of disease with a posterior abscess. Limb was then flexed to 30° and adducted 20°; no shortening. The

FIG. 3

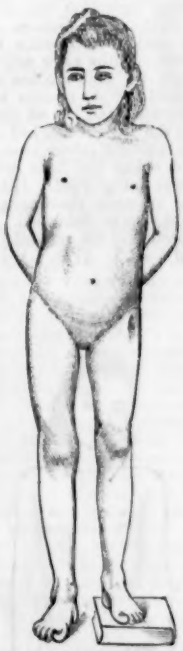
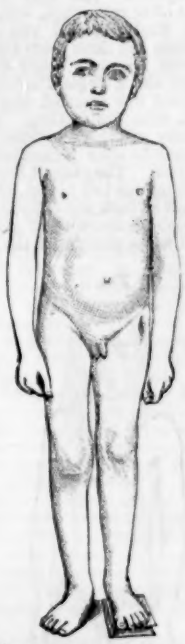


FIG. 4.



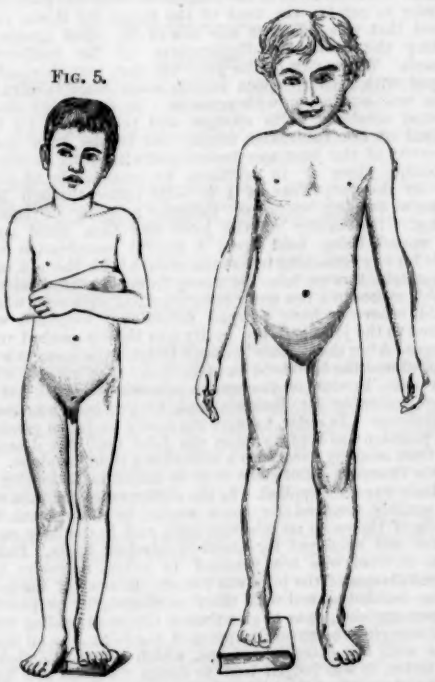
abscess was opened and drained six weeks before excision. The abscess track did not heal. Joint excised by anterior incision. Head of femur carious, and removed. Acetabulum only superficially affected. Drained for five weeks. Temperature irregular for three weeks after excision. Healed in seven weeks. Two small secondary operations, one consisting in scraping granulations, the other aspiration of an abscess three and eight months after excision. No recurrence of bone disease. Finally healed about nine months after excision. Splint worn for one year and ten months after excision. When last seen, four years and four months after excision, or three years and seven months after final healing, the splint had been left off about two years and a half. General health good; joint sound; real shortening two inches, apparent shortening one inch and a half; firm fibrous union at an angle of 45°; flexion compensated for by lordosis; difference in apparent and real shortening due to slight abduction. Walking good on toes without support. (Fig. 3.)

CASE 4.—T. M——, aged three years. Disease of the left hip began at the age of two years and three-quarters, after an injury to leg. Previously treated with plaster-of-Paris for three months and afterwards with weight extension. Admitted nine months after onset of disease with abscess in front of joint. Limb was flexed and inverted; joint excised by anterior incision; head and neck of femur diseased and acetabulum perforated. Head and part of neck of femur removed with a loose sequestrum from acetabulum; no drainage; temperature normal on eighth day; healed by primary union; recurrence three months after excision. Two secondary operations were done three and nine months after excision. Sequestrum removed from acetabulum at the first of these; no further bone disease at the second. Third secondary operation performed a year and ten months after excision; small carious spot in acetabulum. Finally healed one year and eleven months after excision. When last seen, three years and four months after excision, or one year and five months after final healing, splint had been left off eight months. General health good and joint quite sound; real shortening one inch; apparent shortening one inch; no displacement of limb; joint allows flexion to 90° and extension to vertical. Walks easily on sole of foot without support. (Fig. 4.)

CASE 5.—A. P——, aged five years. Disease of the left hip began at four years of age; no cause assigned; no previous treatment. The patient was admitted to hospital a year after the onset of the disease with an abscess in front of the joint;

FIG. 6.

FIG. 5.



joint excised through anterior incision; head of femur disintegrated; acetabulum and root of trochanter diseased; head and part of neck removed and trochanter scraped; drained with two tubes; temperature rarely above 101°. Healed by primary union, except at tube track; recurrence fourteen months after excision. Four secondary operations—fourteen, sixteen, eighteen, and eighteen months and a half after excision. At the second of these there was fresh bone-disease in the trochanter and upper end of the neck of the femur, with two small sequestra. There was no further bone disease at the last two operations. Wound finally healed about six months after recurrence, and a year and eight months after excision. A Thomas's splint was worn for two years and six months. When last seen, three years and four months after excision, or a year and eight months after final healing, the splint had been left off eleven months. General health good and joint sound; real shortening an inch and three-quarters; apparent shortening an inch and a quarter, the difference being due to slight abduction. The limb could be flexed to 30° and extended to the vertical without movement of spine.

Walks easily on toes without support, and can run about with other children. (Fig. 5.)

CASE 6.—W. B——, aged five years. Disease of the right hip began at three years of age; no cause assigned; previous treatment by weight extension for three months, followed by Thomas's splint for fifteen months. Admitted to hospital two years after onset of disease with abscess in front of and on outer side of joint. Joint excised by anterior incision; head of femur destroyed and upper part of neck carious; remains of head and part of neck of femur removed; drainage for five weeks. Temperature never above 101°; drainage track did not heal; recurrence; two secondary operations four and thirteen months after excision; carious bone removed at each. Wound finally healed fifteen months after excision; a Thomas's splint worn for one year and nine months after excision. When last seen, two years and six months after excision, or one year and three months after final healing splint had been left off nine months; general health good; joint sound; real shortening two inches and a quarter, apparent shortening one inch and three-quarters, difference being due to slight abduction; limb was flexed at an angle of 10°; joint allowed slight flexion and abduction. Walking good on sole of foot. (Fig. 6.)

CASE 7.—C. K——, aged eight years. Disease of left hip began at six years of age; no cause assigned. Treated for nearly two years with a single Thomas's splint. Admitted to hospital two years after onset of disease with an abscess in front of joint. Limb was shortened three-quarters of an inch, adducted and everted slightly, but not flexed; joint excised by anterior incision; head and neck of femur diseased, acetabulum denuded of cartilage, but not very carious; head and neck of femur removed. Wound drained with two tubes for six weeks and a half; temperature only once above 101°; primary union except at tube tracks; no recurrence of bone disease, but residual abscess opened one year and eight months after excision, child having then left off splint five months previously. A double Thomas's splint was worn for seven months after excision, and a single Thomas's for eight months more. When last seen, two years and six months after excision, the splint had been left off about a year. General health fair. Real shortening one inch and a quarter; apparent shortening one inch; the difference being due to slight abduction. Joint firmly ankylosed in good position; no movement independent of pelvis. Walks on sole of foot, preferably with the aid of a stick, but can walk well without it. (Fig. 7.)

CASE 8.—L. A——, aged nine years. Excision of both hip-joints. Disease of the left hip began at eight years of age; no cause assigned. Treated with weight extension and double Thomas's splint before operation. Admitted to hospital one year after onset of disease with an anterior abscess. Limb in good position. Joint excised by anterior incision; head of femur carious, acetabulum affected superficially; head of femur removed; no drainage; temperature below 100° after third day. Primary union in three weeks; no recurrence or secondary operations. Wound finally healed three weeks after excision. Disease of right hip began insidiously while a double Thomas's splint was being worn; it was only noticed a month before excision. Joint excised by anterior excision three months and a half after first excision; head and neck of femur carious and most of head absorbed, acetabulum superficially diseased; head and neck of femur removed and a tubercular focus scraped in trochanter; no drainage. Temperature normal on eighth day. Primary union in three weeks; recurrence in scar six weeks after excision; no further bone disease. One secondary operation. Wound finally healed thirteen weeks after excision. A double Thomas's splint was worn for a considerable time after the operations (exact time not known). When last seen, two years and five months after the first excision, two years and one month after second excision and one year and ten months after final healing of second excision, the patient's general health was good in spite of the fact that she also had had spinal caries for which prolonged treatment had been necessary. Both joints were quite sound. Left limb: Real shortening, estimated, by relation of trochanter to Nélaton's line, two inches; joint allows flexion to 60° and extension to the vertical, also adduction to 45° and slight abduction. Right limb: Real shortening one inch and three-quarters; joint allows flexion to 30° and extension to the vertical, also slight adduction. The patient can walk slowly on the soles of the feet without any support. (Fig. 8.)

CASE 9.—A. C——, aged six years. Disease of right hip began at four years of age; no cause assigned. Previously treated with Thomas's splint. Admitted to hospital two years and a half after onset of disease with an anterior abscess. This was opened and drained thirteen months before excision. As the sinus did not heal, the joint was excised by anterior incision. Head of femur nearly destroyed, acetabulum superficially diseased; remains of head and part of neck of femur and a sequestrum removed.; drained with tube; temperature never above 101·2°; wound healed by primary union except at tube track. Three secondary operations, three, four and six months after excision. Further bone disease at the first of these only. Wound finally healed eight months after excision. A Thomas's splint was worn for about one year and eight months. When last seen, two years and five months after excision, or one year and nine months after final healing, splint had been left off about nine months. The boy had not gained much flesh, but his general health was good. Joint firmly ankylosed at an angle of 15° flexion; real shortening one inch and a half, apparent shortening one inch and a half. Walking good on sole of foot without support. An interesting point in connexion with this case is the fact that signs of phthisis appeared at the right apex nine months after final healing,

FIG. 7.

FIG. 8.

but when last seen (nine months after leaving off splint) no sign of phthisis was detected. (Fig. 9.)

CASE 10.—G. P——, aged five years. Disease of right hip began at five years of age, after a fall. A Thomas's splint was worn for some time before operation. Admitted to hospital five months after onset of disease with abscess in front of joint; limb flexed and everted; joint excised by anterior incision; head of femur diseased, acetabulum superficially affected; head of femur removed. Drained for four weeks; temperature never above 101·2°; wound healed by primary union except at drainage tract; finally healed five weeks after excision; no recurrence; no secondary operations. A Thomas's splint was worn for thirteen months after excision. When last seen, two years after excision, or one year and eleven months after final healing, splint had been left off eleven months. General health very good. Joint sound and fixed by firm fibrous union at an angle of 20°; real shortening one inch and three-quarters, apparent shortening one inch and a half. Walking good on toes without support. (Fig. 10.)

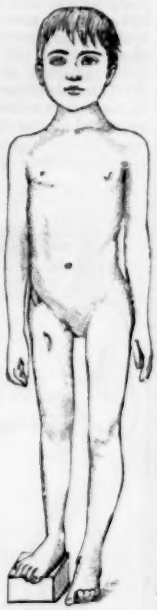
CASE 11.—C. N——, aged eight years. Disease of right hip said to have begun when the child was eighteen months

old. Admitted six years and a half (?) after onset of disease with a large abscess over right buttock and a discharging sinus over trochanter; limb was shortened one inch, flexed and adducted; joint excised by posterior incision; head and neck of femur destroyed; trochanter and acetabulum extensively diseased; trochanter and remains of neck removed; drained with tube; wound did not heal. Five secondary operations one, three, four, five, and twelve months after excision; at the second of these the joint was reopened from behind and more of trochanter sawn off. The other operations consisted in the scraping of sinuses and treatment of

FIG. 9.

FIG. 10.

FIG. 11.



fresh abscesses. Wound finally healed thirteen months after excision. Temperature irregular all through till last operation. Splint worn for one year and three months after operation. When last seen, one year and eleven months after excision or ten months after final healing, splint had been left off eight months. General health good. Joint sound; actual shortening three inches and a half, apparent shortening two inches; difference due to abduction. Limb can be flexed to 30° and extended to vertical. Walking good on toes without support. (Fig. 11.)

(To be continued.)

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC.—This institution satisfactorily maintains its benevolent activity and usefulness. The new wing is found well suited to the important uses to which it is put. The receipts for the past year were £15,539 0*s.* 9*d.*, the largest since the hospital has been rebuilt. The amount received for general purposes was sufficient to meet the expenditure and to leave a small balance, but a debt of £2200, with which the year opened, remained. The board has, however, since the account was prepared, been enabled to discharge the several loans and the institution again stands free from debt.

SOCIETY FOR THE RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of directors was held on Wednesday, July 13th. Sir James Paget, President, was in the chair. Four new members were elected. The deaths of two widows receiving grants were reported. It was resolved to distribute on the 20th the sum of £1296 among the fifty-eight widows and eighteen orphans now in receipt of grants. No fresh applications for assistance were read. The expenses of the quarter amounted to £51 11*s.*

PERFORATION OF THE INTESTINE IN PHTHISIS.

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(Concluded from p. 136.)

WE will now turn to the consideration of the second result of perforation of the intestine by a tuberculous ulcer—namely, the formation of a chronic abscess having a direct communication with the bowel. Fæcal abscess may arise during the course of chronic phthisis under two separate and distinct conditions. In one a small localised collection of pus may form in the abdominal cavity as the result of a previous attack of peritonitis, and bursting through the wall of the intestine give rise to fæcal extravasation. The second variety results directly from perforation of a tuberculous ulcer of the bowel, and it is with this condition that the present paper is alone concerned. Fæcal abscess having its origin in tuberculous disease of the intestine is but rarely met with, for among 122 instances of this affection collected by Dr. Samuel Fenwick[1] only 10 were due to the perforation of a tuberculous ulcer. Among 2000 consecutive necropsies on phthisis performed at the Brompton Hospital we have only been able to discover 10 instances of the disease in question and with considerable difficulty have collected 15 additional cases from various sources, making in all a total of 25. The disease occurs at all periods of life, but perhaps is most frequent between the ages of twenty and thirty. In two cases the patients were less than four years of age, and in one case over sixty. Women appear to be more often the subjects of this affection than men, for of the 25 cases no fewer than 15 were females. The sac of the abscess may be situated either within the cavity of the peritoneum or in the subperitoneal areolar tissue or in the substance of some solid organ. In the first case its walls may be said to be formed by a thickening of the serous membrane and adhesions between the neighbouring organs; while in the second the attachment of the fasciæ and an inflammatory thickening and condensation of the connective tissue constitute an efficient barrier against further diffusion of the purulent material. The cases at our disposal afford two instances in which the abscess cavity was contained in the substance of a muscle. In one recorded by Piégu[2] a coil of small intestine had become adherent to the right psoas, and a perforating ulcer had given rise to a collection of pus among the muscle bundles. In another instance an abscess in the anterior abdominal wall owed its origin to the adhesion and perforation of a tuberculous ulcer in the ileum. It is interesting to note that in many instances the walls of the sac were found profusely studded with granulations, and in not a few cases an acute tuberculous affection of the peritoneum quickly followed the establishment of the local disease. So long as the sac remains entire the orifice in the bowel continues patent and the pus is feculent; but the abscess is very apt to burrow and discharge, either externally or into some hollow viscus, and when this event occurs the intestinal aperture may become completely closed and, the discharge continuing, may entirely lose its fæcal element.

With regard to the location of the fæcal abscess, it is to be noticed that the large intestine is far oftener the starting-point of the affection than the small, the proportion in our cases being nearly 3 to 1. In 21 instances the post-mortem notes define fairly accurately the position and relations of the abscess. In 10 it was situated in the right iliac fossa, the sac having formed eight times in the subperitoneal tissue and twice within the cavity of the peritoneum. Of the subperitoneal variety 6 were due to perforation of the posterior wall of the cæcum and 2 to perforation of the vermiform appendix, which in these cases was only partially invested by the peritoneum and lay behind the first portion of the large intestine. Both instances of intra-peritoneal abscess in this region originated in perforation of the appendix and

[1] Obscure Diseases of the Abdomen: Art., Fæcal Abscess.
[2] Bulletins de la Société Anatomique, 1837.

in one case there was a similar lesion in the ileum just above the valve. In five cases the abscess was found to occupy the central regions of the abdomen, in three of these it lay superficially and pressed the intestines backwards, while in the remaining two it was deeply situated among the coils of the small gut and was connected with them by numerous adhesions. The perforations in these cases were found as follows: three were located in the ileum, one in the jejunum and in one both the duodenum and cæcum were simultaneously affected. The pelvic cavity was the seat of an abscess in five cases; in three of these a perforation was found in the small intestine, one in the sigmoid flexure and one in the upper part of the rectum. In only two instances was the fæcal abscess situated in the lumbar region, and in both of these the affection occurred on the right side. One originated in perforation of the ascending colon, while the other appeared to have followed fæcal extravasation from the vermiform appendix. In twelve cases the abscess burst during life, and it is important to notice that in only one instance did the sac rupture into the cavity of the peritoneum. Three times an abdominal abscess made its way through the umbilicus, feculent matter mixed with pus being discharged continuously through the wound. In four cases an iliac abscess presented at the right groin, and in one the contents of the sac were evacuated by surgical interference. In three instances the abscess burst into some other portion of the intestinal tract; in one a lumbar abscess perforated into the ascending colon; in another an iliac abscess, resulting from disease of the appendix, made its way through the wall of the cæcum, while the third example occurred in the pelvic cavity and the pus found its way into a loop of small intestine.

Attention has already been drawn to the fact that fatal peritonitis may ensue from perforation of a tuberculous ulcer in the intestine without giving rise to any symptoms indicative of the condition, and it is therefore not surprising to find that in the majority of cases the development of a fæcal abscess occasioned but little additional disturbance of the general health. Local pain was always complained of, and although this symptom varied in severity in different cases it was invariably increased by pressure and on muscular movement. Nausea and vomiting were noticeable features in nearly every case, sometimes continuing throughout the whole course of the illness, but more often only recurring from time to time. The formation of an abscess appeared to exert no influence upon the diarrhœa which always accompanied the extensive ulceration of the intestinal tract, but in one instance the stools were noticed to contain blood a few days before the discovery of the abdominal tumour. Emaciation proceeded rapidly in all the cases and the tongue presented a dry, furred or fissured appearance. In only one case did the patient suffer from rigors, a fact worthy of particular notice, since in cases of fæcal abscess arising from causes other than tuberculous ulceration repeated shiverings are the rule and not the exception. With this single exception the clinical records of the cases fail to show that any definite degree of pyrexia accompanied the formation of the local abscess. Except when rupture of the sac took place, the abscess appears to have exerted but little influence upon the duration of life. In one case an abdominal tumour was discovered by accident a fortnight prior to death, and in the majority of cases life was certainly prolonged for three or four weeks after the presumable occurrence of perforation death finally resulting from exhaustion. From these facts it is obvious that a fæcal abscess cannot be looked upon as a complication of chronic phthisis endowed with any symptoms more striking than those of chronic local peritonitis.

In 14 out of the 25 cases the presence of an abdominal tumour attracted notice during the life of the patient. In 9 instances the swelling occupied the right iliac fossa, in 3 the epigastric and umbilical regions, and in 2 the tumours invaded the greater portion of the anterior division of the abdominal cavity. The ease with which it could be detected varied according to the relation of the sac to the abdominal wall, the outline being irregular and ill-defined when the abscess was situated deeply among the coils of intestine, but rounded and distinct when it occupied a more superficial position in the neighbourhood of the cæcum. In a few cases the swelling was sufficiently large to produce an obvious effect upon the outline of the abdomen. Owing to the presence of adhesions the tumour was always firmly fixed to the surrounding structures, and hence it not only resisted all attempts to displace it by lateral pressure with the fingers, but also failed to alter its position during forced acts of respiration. Various statements are made with respect to the consistence of the tumour, some writers describing it as "hard and irregular," others as "soft and smooth," while the term "brawny swelling" is frequently made use of to express the physical characters of the disease when situated in the iliac fossa. In a few instances a certain amount of elasticity could be detected in the tumour, but true fluctuation could seldom be made out satisfactorily. It occasionally happened, especially when the abscess was situated in the iliac fossa, that firm pressure over the swelling produced a gurgling noise. This sign was probably due to the sac containing a mixture of air and fluid, but in some cases it might also have arisen from the presence of a piece of intestine interposed between the anterior surface of the tumour and the hand. The percussion note over a fæcal abscess is liable to wide variation. Sometimes the note proves quite dull, and under these circumstances the sac is presumably full of fluid. In other cases the note is found to vary according to the force of the percussion stroke, being hyper-resonant when the finger is lightly struck, but becoming dull and toneless when more forcibly percussed. Such a qualitative change in the percussion note arises in all probability from the composite nature of the contents of the abscess, the tympanitic sound being the expression of its gaseous moiety and the dull note that peculiar to the fluid portion. There is, however, one percussion sign of such importance that, when present, it is pathognomonic of fæcal abscess—the sudden development of tympanitic resonance over a tumour which had previously yielded only a dull note. In such a case the development of gas within the tumour can only have arisen from putrefaction among its original contents or by the direct admission of air or intestinal gas into the cavity of the abscess. In one of our cases it was expressly noticed that when the abscess due to perforation of the duodenum discharged itself through the umbilicus, the appearance of the pus was preceded by an escape of a large quantity of very fetid gas, after which the whole tumour became dull on percussion.

In addition to the foregoing there are one or two physical signs which are more rarely encountered. The outline of the tumour as determined by percussion is sometimes found to vary with the position of the patient and a distinct splash becomes audible when the body is shaken or suddenly moved. In other cases, again, the physical characters of the swelling appear to be influenced to a great extent by the state of the bowels, a sudden attack of diarrhœa often giving rise to a remarkable diminution in the size of the tumour. This latter sign is almost entirely confined to those varieties of fæcal abscess which originate in causes other than tuberculous ulceration of the bowel, for in our cases diarrhœa was a constant and not an occasional symptom, and consequently a sudden diminution in the size of the sac was never observed unless rupture had taken place. From these facts it would appear that whenever an abdominal swelling, unattended by special symptoms, presents itself during the latter stages of chronic phthisis, irregular and ill-defined in outline, immovable on deep inspiration or by pressure with the fingers, tympanitic on light and dull on deep percussion, with gurgling and pain on pressure, it will almost certainly prove to be a fæcal abscess. In certain cases, however, the diagnosis may prove of some difficulty, for not only may the tumour itself be difficult to investigate on account of its deep situation, but the physical signs peculiar to it may be simulated closely by other pathological conditions. It may happen that an abscess arising from perforation of the duodenum, instead of coming forwards as in the case previously alluded to, may remain localised in the immediate neighbourhood of the lesion. In this position the tumour is difficult to detect on account of the rigid condition of the abdominal walls, and the auscultatory phenomena may so closely simulate those of pneumothorax that Leyden has designated the condition "pyo-pneumothorax subphrenicus." In true pneumothorax, however, the whole of one side of the chest is expanded and motionless, while in peri-duodenal abscess the expansion of the thorax due to the tumour is strictly confined to its lower part. In the former case, again, the percussion note is hyper-resonant, the breath sounds either diminished or totally suppressed, tactile fremitus abolished, and the heart driven over towards the opposite side. In the latter condition the diaphragm is pushed upwards and the base of the lung compressed, hence where the breath sounds are deficient the percussion-note is dull and tactile fremitis increased; while the heart may be tilted upwards, but is never laterally displaced. Lastly, if air and fluid coexist in the chest the splashing sounds are

limited to the diseased side, but if gas and liquid are associated in an abscess cavity, the splash and metallic phenomena are distinctly audible all over the abdomen and back.

The left lobe of the liver is frequently enlarged in cases of chronic phthisis, and if previously the seat of hydatid or syphilitic disease the tumour may present some difficulty for diagnosis. From fæcal abscess, however, such a condition is easily distinguished by the absence of pain on palpation, its slow growth and more definite outline, its free movement on inspiration and by the fact that percussion produces a dull note under all circumstances.

If the tumour be situated in the right iliac fossa it may be confounded either with a cæcum thickened by tuberculous disease of its mucous membrane or with a mass of caseous glands located behind the first portion of the large intestine. In each case a gurgle may be produced by pressure and the percussion note vary with the force of the stroke. A thickened cæcum, however, usually forms a tumour less distinct in outline than a fæcal abscess in this situation, is less painful on pressure and exhibits little tendency to increase in size. A bundle of caseous glands may easily be recognised from the fact that the tumour it gives rise to is much harder and more irregular in outline and less painful on pressure than a fæcal abscess, while other enlarged glands can often be detected in the immediate vicinity or elsewhere in the abdominal cavity. It must be remembered, however, that if suppuration should occur in connexion with the tuberculous mass, the pus may eventually burst through the cæcum and give rise to a true fæcal abscess. In the cavity of the pelvis the existence of the disease can seldom be determined during life. Fæcal abscess connected with the colon may be mistaken for a tumour arising from the kidney. In the latter case the urine generally contains albumen, blood or pus, and the symptoms present point more strongly to a tuberculous affection of the kidney than to the exceedingly rare association of a local abscess with perforation of the ascending colon.

In conclusion, we will as briefly as possible draw attention to a few of the less important local results of perforation of the bowel by a tuberculous ulcer. When extensive adhesion exists between the coils of the gut, a perforating ulcer, after destroying the whole thickness of the bowel, may find itself confronted by the serous surface of another coil and proceed to eat its way through the tissue opposed to it until it has opened up the cavity of the bowel. In this manner the intestines may be completely honeycombed and the contents of the intestinal canal no longer follow a definite route but pass at random from one portion of the intestine to another. Thus Rindfleisch[3] states that these fistulous openings in the wall of the gut may exceed in diameter that of the intestine itself, and instances one case where he found five such irregular means of communication existing between different parts of the intestinal canal. In other cases fistulæ may originate by an intermediate process of abscess formation. A slight amount of leakage having taken place through the base of an ulcer, inflammation and suppuration are promptly excited in the vicinity, and the abscess thus formed by burrowing in different directions may effect a communication with another of a similar nature, or even find its way through the wall of a contiguous coil. Should any obstruction exist in the course of the intestine situated between these two points the abscess track will be appropriated by the intestinal contents as an easier means of transit, and a permanent fistula be established. Thus in one of our cases a perforation existed in the lower end of the ileum just above an obstructed ileo-cæal valve, and the abscess had communicated with an aperture in the vermiform appendix and allowed the contents of the small intestine to find their way into the cæcum. In another instance an intra-peritoneal fistula was found to connect a perforation in a diverticulum from the ileum eighteen inches above the valve with the dilated cavity of the appendix cæci, and here again the valve was much obstructed. Rintel[4] records a case in which an abscess resulting from perforation of the duodenum had burrowed downwards and eventually established a communication with the cæcum. After death it was evident from the empty and contracted state of the jejunum and ileum that the whole of the gastric contents had been accustomed to circulate along the false canal instead of following the natural but more circuitous route. These abnormal conditions, however, seldom give rise to any definite symptoms or physical signs, and are consequently of greater interest to the pathologist than the physician.

[3] Pathological Anatomy, vol. i., p. 449.
[4] Berl. Klin. Woch., 1867, p. 332.

NOTES ON OCEAN TRAVEL FOR HEALTH AND DISEASE.

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LIFE at the end of the nineteenth century is so eager and full of struggle, competition is so keen, the reward of successful effort so great, that most of us in every station neglect those precautions and habits upon which continued health chiefly depends. Prolonged and anxious intellectual labour, irregular hours, warm and ill-ventilated rooms, insufficient sleep and exercise, strain the nervous system, beget indigestion and innumerable physical evils. The physiological and prophylactic remedies of out-door exercise, rest, diet, rational amusement, which do so much to keep us in health, are not so generally utilised as their inestimable value deserves. Accordingly we approach the summer season jaded, worn, with nerves unstrung, appetite feeble, digestion faulty, sleep restless and insufficient. Rest is urgently demanded; the brain needs to lie fallow for a time that it may recuperate after its strenuous energy. Among the many means to which we may resort for restoration of physical and intellectual force I would unhesitatingly assign a high, perhaps the highest, place to ocean travel. To leave our accustomed haunts and treadmill round of duty for a while, to exchange the tasks which have wearied us and the places with which we are familiar for new scenes and occupations is highly beneficial. To cast off for a time the load of labour and responsibility which we carry, to feel ourselves for a space at liberty, is a wonderful relief. Often we do not realise how heavy has been our burden until it is temporarily removed. Rest and travel by land and sea are sovereign agencies in recruiting exhausted strength. A tranquil country life will afford repose, but its monotony will often weary the spirit habituated to variety and excitement. Summer travel by rail is not restful. Our seaside resorts, beneficial though they doubtless are, afford too much opportunity for social dissipation, so that their good effects are to a great extent lost. They are open to the objection, moreover, that the father of the family can so easily "run up to town" when what he needs is to escape the city's heat and confusion. No remedy is a panacea. The most useful agencies can be abused. Change and recreation are desirable. To exchange the counting-house or the office for the smoking room of an ocean steamer, to smoke, drink and play cards while crossing the Atlantic is to wilfully throw away the advantages which may be obtained from the journey. Life at sea is sufficiently full of incident to avoid the reproach of dulness. One meets with old friends or forms new acquaintances and a pleasant, leisurely intercourse permits the days to glide by without weariness. The sea air, always in circulation and charged with ozone, invigorates the exhausted system. Movement is not restrained. We feel the ship beneath us forging its way through the water, the deck affords us an ample promenade, the heaving surface of the ocean a picture full of charm. The pure salt breeze fans our cheeks, the porpoise or the shark claims a share of our attention, and as we traverse the ocean highway we meet other steamers sending up their clouds of smoke or sailing vessels with canvas spread to catch the wind.

The panorama of the heavens is a spectacle of beauty, grandeur and awe. Who can describe or who can depict the glories of the rising or the setting sun? On the eastern horizon the grey light of dawn becomes brighter, and above the surface of the deep the king of day arises. A rosy glow lights up the sky as the sun starts upon his daily race. At eventide the brilliant spectacle is repeated as the orb sinks below the line. What a flame of colour shines in the west as the sun majestically descends! The vivid crimson reflected from cloud to cloud gradually fades to rose, to pink, to purple as the light of day vanishes and at last the pageant has ended. Then, when twilight has deepened into dark, the stars peep out and the dark expanse above us is studded with innumerable sparkling lights upon which we gaze with admiration and by which our

captain calmly shapes his course across the trackless waste of waters. Anon the moon, fair queen of night, arises and as she takes her place among the glittering constellations the sublimity of the night scene culminates. Whether crescent or full, alike beautiful, her silvery beams falling upon the water mark a track of light across the sea. The sweet light which fills the air seems to the fancy more mystic and solemn than that of day. Thus, day after day, wind and wave, sun, moon and stars are our companions. Their sweet influences sink unconsciously into our minds and work a subtle change throughout the system. It is good for us to be led away from our toils and ambition to commune with Nature. On land the face of Nature shows more variety, but is seldom so imposing and so attractive in its grand, stern features as upon the sea. The pure, equable and invigorating ocean climate, the pleasant idleness and agreeable companions of our journey, the grand natural scenes spread out before our eyes, form a totality of influence capable of rejuvenating weary minds and bodies and restoring us with renewed power to the scenes of our wonted activities.

But to this alluring picture of rest and recreation there is a reverse side. Few altogether escape sea-sickness upon their first voyage, many never entirely lose their susceptibility to attack. In the majority of instances the sick person recovers after a few days have passed, and the latter portion of the voyage is both pleasant and beneficial. Indeed, so thorough has been the evacuation of the system that when recovery is finally established the appetite is extraordinarily vigorous. The depression which the sickness had caused gives way to an exaltation of mind and body to which one has long been a stranger. Exceptional individuals are indeed met with to whom an ocean voyage is always an affliction and who are compelled to lie in their berths from one shore to the other. To such ocean travel can scarcely be recommended, though if free from organic disease they not infrequently gain strength rapidly as soon as they have landed. The symptoms of sea-sickness are so well known as to require no description. Its mode of genesis is as yet imperfectly understood, though it probably depends upon disturbance of the central nervous system by the alterations or shocks of the sense of equilibrium produced by the rolling or pitching of the vessel. That it is not chiefly due, as has been surmised, to the effect upon the visual centre is proved by the fact that the blind are not exempt from sea-sickness. An experience of twelve years, during which I have spent many of my holidays upon the sea, has convinced me that *mal de mer* can only be avoided and controlled by the exercise of a strong will in conjunction with a fairly healthy condition of the nervous and glandular systems. It is of advantage some days prior to sailing that the alimentary canal should be thoroughly cleansed by the operation of a saline or mercurial cathartic. In the absence of or after recovery from sea-sickness the sanitary effects of a sea voyage are very decided. The result is brought about by a combination of physical and psychical influences which have been already glanced at in the foregoing remarks. First in the category is the ocean climate. Sea air stimulates the appetite, improves digestion, assimilation, secretion and excretion. The glandular follicles and organs of the alimentary system are awakened to a high state of functional activity. Relaxed muscular tissue becomes firm, the heart is invigorated, the circulation is carried on more actively, respiration is deepened, the pure air inhaled promotes a quickened oxidation and tissue change, the skin grows soft and blooming, the tone of the nervous system is raised and a cheerful state of mind induced. The traveller gains flesh and strength, sleep is sound, lassitude vanishes and irritable nerves become firm. A portion of this improvement is doubtless to be attributed to the companionship and amusements on board and to the daily and nightly spectacles of sea and sky.

I have by implication alluded chiefly to the summer voyage by steamer to Europe simply because it is that with which I, in common with many of my countrymen, am most familiar. Our own seaboard is, however, so extensive that innumerable short sea trips can be taken during favourable seasons upon either the Atlantic or Pacific coast. Those dwelling in the interior have, in the great lakes, a serviceable substitute for an ocean voyage. The atmosphere of the lakes is hardly equal in tonic properties to that of salt water, though it is certainly pure, and the voyage from Buffalo to Duluth possesses peculiar interest. In the summer the inhabitant of one of our Eastern cities can avail himself of the steamship lines which will convey him along the New England coast, while in the winter he can travel to the south. On the Pacific one can cross to Japan or China, or make the very interesting and beneficial excursion to Puget's Sound, and thence along the coast to Alaska. Under certain circumstances the old-fashioned sailing vessel offers superior advantages to any steamer. If there is reason to believe that the health will be improved by an ocean voyage, the slower progress of the sailing vessel allows more time for the work of recuperation to proceed. On the other hand, the lack of genial company, the coarser fare and accommodation to be found upon sailing vessels will in many cases neutralise their advantages. The journey across the Atlantic by the most direct routes has gradually been so shortened that hardly time enough is allowed on shipboard, especially if half that period is occupied by an attack of sea-sickness. This objection can be partially met, however, by choosing one of the less direct routes. There are many to whom it is of more value to spend a few additional days upon the ocean than to rush at the highest attainable speed from New York to London, Paris or Berlin. Besides those who every summer seek Europe for commercial purposes or in pursuit of pleasure there is a small army who go in order to re-establish their health. At the head of the list may be placed the overworked business or professional man who for nine months has toiled almost without cessation. The most hurried meals, the scanty nights' rest have robbed him of flesh and freshness, his appetite has failed, his digestion is bad, his bowels constipated or irregular, his head often aches or is the seat of an indescribable feeling worse than an ache, his mind is dull, his nerves are unsteady and temper irritable, and his work has become a burden. He determines or is bidden to tear himself away, engages his passage and is a changed man before he reaches the end of his voyage. He can again look on the bright side of life, can laugh and be amused, can enjoy his meals and sleep all night. He lands, visits spots of historic interest, pleases himself perhaps in visiting the home of his ancestors and returns to this country vastly benefited by two ocean voyages and a sojourn in another land. How often have I witnessed such transformations and, indeed, experienced it in my own person.

Next reference may be made to the unhappy victim of dyspepsia. "The accursed hag Dyspepsia," as Carlyle says, "had got me bitted and bridled, and was ever striving to make my living day a thing of ghastly nightmares. I resisted what I could, never did yield or surrender to her, but she kept my heart right heavy, my battle being sore and hopeless." Few have the force of intellect and will that distinguished Thomas Carlyle, and what wonder that despondency, hypochondria, melancholia, and sometimes suicidal mania, may follow in the train of chronic and aggravated indigestion. Again, though the will can do much, it cannot counteract the effect of chemical poisons engendered by faulty processes within the alimentary canal. Palpitation, asthma, eczema, urticaria, lithæmia and other troubles may be the outcome of the same cause. Many of these consequences may be averted and the condition of the patient vastly ameliorated by an ocean voyage. Sea-sickness to such an individual is not an unmixed evil. The alimentary canal is cleansed perforce, the man begins anew, and if he be free from grave organic disease of stomach or liver the improvement may be permanent. The constipation which troubles so many without seriously undermining the general health, yet which produces a muddy complexion, engenders headache and dulls the mind, generally yields to the improved nutritive conditions caused by breathing sea air. The secretions are augmented and peristalsis excited. It is well known that many forms of cutaneous disease are excited either directly or indirectly by chronic indigestion. The toxic products of imperfect metabolism thrown into the circulation act, in some cases, as specific poisons to the skin, its appendages, nerve-supply, vascular, or absorbent system. To remove the cause has from time to time been recognised as the first step in therapeusis, and in consonance with this axiom, when a few days' travel upon the ocean has ameliorated the indigestion, acne, seborrhœa, eczema, psoriasis, and paræsthesia are often more speedily and rapidly benefited by a sea voyage than by the most competent and elaborate advice and use of the most approved remedies while the patient remains at home. In addition to the systemic influence the skin is directly improved by the moist atmosphere of the ocean. Chronic gastro-enteritis is relieved by a trip across the water. The vascular stasis of stomach and bowel is removed and the local circulation quickened, the vaso-motor tone is raised, the inflammatory products are expelled and the anatomical

condition of the mucous membrane is materially changed. The muscular fibres are invigorated, secretion is more efficiently performed and the patient reaches his destination in a much better condition than when he began his journey.

Salt water has long enjoyed a popular reputation of conferring immunity against the effects of exposure to cold. Fishermen and boatmen along the coast as well as sailors in mid-ocean pursue their laborious avocations in dripping garments without fear of "taking cold." How much of this protection is due to the salt contained in the water and air, and how much to the natural resistant power of a hardy organism, I shall not attempt to determine. Whether fishermen off the coast are less liable to attacks of catarrh of the respiratory passages than men who follow the same calling in fresh water I am unable to say, yet the general belief of seafaring men, founded upon abundant experience, must contain an element of truth. At all events, signal amelioration often attends a journey by sea in the case of bronchial and pulmonary disease. In chronic bronchitis inflammatory action is lessened, expectoration and cough are diminished, respiration becomes more free and sleep more sound. Vesicular emphysema is relieved by the favourable impression made upon the attendant bronchitis, by the tonic effect upon the heart and the improvement in digestion. In many cases of spasmodic asthma the patient, while at sea, is spared his distressing paroxysms. Attacks of hay asthma may be escaped by a sea voyage. A strong illustration of the neurotic element in asthma is the fact that those sufferers whose home is in the interior are more apt to be benefited by sea air than those who dwell near the coast. A voyage is a sovereign remedy for insomnia. When this habit is strictly dependent upon nervous strain or obstinate indigestion it vanishes as the conditions which gave rise to it improve. Many people of middle age, however, without any apparently decided failure of general health are not able to readily fall asleep. They may feel drowsy before preparing for bed, but the act of undressing arouses them and by the time their heads touch the pillow they are wide awake. This wakefulness continues for some hours, the patient rolls in his bed and adopts various devices in order to woo sleep, but in vain. The mind is singularly active when one wishes rest, unpleasant subjects of thought arise like magic and in time the patient dreads retiring for the night. This very apprehension intensifies the difficulty and thus the case progresses, and fortunate is the man who resists a strong temptation to have recourse to narcotics. The sea exerts a wonderful power in this condition. The ocean atmosphere possesses decided hypnotic virtue and "Nature's sweet restorer, balmy sleep" closes the eyes of the thankful traveller. An ocean voyage mitigates or suspends the pain of neuralgia. Free from torment, a hearty appetite, an abundant consumption of food, quickened oxidation and sanguification re-establish the nutrition of nervous tissue. The affected cords restored to health cease to be sources of agony. A remarkable happy effect is often produced in hemicrania. I have known patients whose pangs were periodical and excruciating to experience entire freedom during the passage, to suffer from no relapse for months afterwards, and indeed in some instances the malady has never since returned. A very pleasing effect is often produced in melancholia. The settled gloom is gradually dispelled. The poor sufferer little by little awakens to an interest in life, ceases to meditate continually upon his woes, listens to cheerful conversation and no longer avoids his fellows. The hypochondriac, improved in physical health, forgets his morbid fears. The hysterical girl, impressed by the majesty of Nature, with nerve centres fortified by the multifarious influences of her unaccustomed surroundings, is led to forget her own personality, and ceases, for a time at least, to be a source of trouble or annoyance to her relatives. A more lasting effect is produced upon neurasthenia. New and richer blood feeds brain and spinal cord, languor disappears, and the patient returns home with a new lease of life. Choreic children are often vastly improved, or even cured, by a sea-voyage. Jerking and irregular movements gradually decrease, sleep becomes uninterrupted and normal, coördination at last results. Epilepsy also is often benefited. The spasms are mitigated in severity and recur at longer intervals. Ocean travel is of conspicuous advantage to the subjects of anæmia and chlorosis. It is unnecessary to repeat what has been already said concerning the freshened activity of the blood-forming organs. Suffice it to say that the capricious and perverted appetite becomes keen and normal, pallor and discolouration rapidly vanish, the lips and mucous membranes acquire a rosy hue, muscular strength augments, and, in brief, the patient is soon cured. A sea voyage may very appropriately be recommended to one who has just recovered from an attack of purpura, particularly of the hæmorrhagic variety. Local disease of the skin remotely connected with chlorosis is benefited by removal of its cause. As regards the menstrual function, the usual primary effect of crossing the ocean is suppression for a few periods, but the ultimate influence is beneficial. Dysmenorrhœa is sometimes, and ovarian neuralgia generally, relieved.

(To be concluded.)

A NATIONAL DANGER: LEAD POISONING FROM SERVICE PIPES.[1]

BY ALFRED SWANN, M.D.,

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THIRTEEN years have now passed since I first drew attention to the great danger of supplying water for drinking and dietetic purposes through leaden service pipes. During that period a great deal has been said and written upon this subject, but as far as I can gather the really fearful danger existing from this cause has either been ignored or only partially recognised. The general opinion seems to have been that the results of drinking water very slightly contaminated by lead were rather inconvenient than dangerous, and my object in writing the present paper is to show that a serious national danger exists, and I do not think after perusing these lines anyone can doubt my deductions. Ocular demonstration is a very important thing in a case like the present and a very simple means is at everyone's disposal for ascertaining the presence of lead in water. A solution of one grain of bichromate of potash to the ounce of distilled water furnishes everybody with a test capable of discovering 1 part of lead in 500,000 parts of water and I would recommend every medical man residing in districts suspected of lead poisoning to make use of the foregoing. My method has been as follows: To one gallon of water free from lead I have added one grain of lead acetate; to fifteen drachms of this solution one drachm of the bichromate solution is added. This gives the precipitate obtained by one grain of acetate of lead to the gallon of water. The original acetate of lead solution I dilute by halves: thus, 1 gr., ½ gr., ¼ gr., ⅛ gr., $\frac{1}{16}$ gr., $\frac{1}{32}$ gr., $\frac{1}{64}$ gr., $\frac{1}{128}$ gr., and to each I add the same quantity of the test solution. This gives a series of graduated colour tests which can be used for comparison with any sample of water brought for analysis.

The last ten samples of water tested by me in the foregoing manner give the following results:—

Case	1.	Reaction equal to	½	of a grain of lead acetate to the gallon.			
"	2.	"	"	¼	"	"	"
"	3.	"	"	⅛	"	"	"
"	4.	"	"	$\frac{1}{16}$	"	"	"
"	5.	"	"	1 grain of	"	"	"
"	6.	"	"	½ of a grain of	"	"	"
"	7.	"	"	1 grain of	"	"	"
"	8.	"	"	½ a grain of	"	"	"
"	9.	"	"	1 grain of	"	"	"
"	10.	"	"	½ a grain of	"	"	"

The foregoing cases were taken haphazard in my daily practice between June 9th and June 27th this year and represent a class of cases such as I have been treating without intermission for the past thirteen years.

CASE 1.—Female about sixty years of age, in easy circumstances. Has suffered for many years and was told by a medical man some years ago that she had cancer of the stomach. Present condition: Never free from abdominal pain, which increases frequently to agonising colic; constipation; profound anæmia. Other members of the same household suffer from colic and digestive disturbances which disappear when they leave home.

CASE 2.—Female aged about thirty-four. Colic; constipation; anæmia; frequent abortions.

CASE 3.—Male aged about forty. Colic; constipation; lumbago; rheumatic pains.

CASE 4.—Female aged fifty-five. Progressive motor and sensory paralysis of legs; lumbar pain; constipation; colic occasionally.

[1] For complete and exhaustive information on this subject I would refer to "Études sur les Eaux Potables et le Plomb," par A. Hamon, Paris, 1884, to whom I am indebted for much valuable assistance.

CASE 5.—Female aged twenty-five. Menstrual irregularities, sometimes profuse; constipation; colic; abortions.

CASE 6.—Female aged seventeen. Distressing colic; constipation; menstrual irregularities; profound anæmia.

CASE 7.—Female aged thirty-eight. Profound anæmia; constipation; colic; menstrual irregularities.

CASE 8.—Male aged ten. Paroxysmal colic; occasional diarrhœa; choreic movements about eyes and hands; anæmia.

CASE 9.—Female aged thirty-one. Constipation; colic; anæmia; faintings; confusion of ideas; occasional loss of speech and sensation; mental condition gradually deteriorating.[2]

CASE 10.—Female aged fifty-eight. Anæmia; constipation; lumbago; gout.

To the foregoing cases I would add the following:—

S. B——, aged about forty. Agonising colic; blue line round teeth. Would not believe it was lead. A magnificent specimen of muscular humanity. For years went from bad to worse; developed albuminuria. Passed from under my care, but shortly after died of "apoplexy." Young son living in same house about ten years old. Completely paralysed (general paralysis); blue line round gums.

S. S——, aged thirty-five. Joiner. Suddenly went blind in right eye. Retinal hæmorrhage; blue line round gums; constipation; occasional colic.

I could multiply cases *ad infinitum*, but the foregoing are enough for my purpose. To justify the heading of this paper[3] I must state that Mr. Walker of Heckmondwike, the inventor of the "health" iron tin-lined service pipe, has kindly allowed me access to his collection of sample specimens of water from the following districts. He has for some time adopted the following plan. After obtaining a sample of water from a given district he places in it a piece of polished lead and leaves it there. In the course of a very few days, sometimes hours, a precipitate begins to form and very soon the water becomes milky, and there really in many cases seems to be no limit to its solvent action under these conditions. He has informed me that he will be glad to show these specimens to anyone interested in the subject.

The following is a list of the waters of which Mr. Walker has specimens and which show a great power of dissolving lead, and I cannot do better than use his own words, which are as follows: "Distilled water acts very vigorously and throws down plenty of lead salts in a short time. Glasgow water acts still more vigorously and deposits more lead salts. Wakefield water acts very strongly on lead, making plenty of lead salts in a short time. Leeds water acts sometimes strongly and at other times very little. Morley water, which is from Leeds, we find acts strongly, but it also varies. Huddersfield, Mirfield, Dewsbury and Heckmondwike, Manchester, Oldham, Blackpool and Halifax act vigorously, all of them depositing lead salts, some acting rather more quickly than others. Batley, Eccleshill, Birstall, Gomersal, Pudsey, North Bierley act *very* vigorously. Barnsley, Clifton, Rastrick and Brighouse, all these have an affinity for lead, though not so strong as the others. Newcastle-on-Tyne water takes the lead into solution, but does not throw down or deposit lead salts; but having had only one sample of this water I am not prepared to speak with certainty of it. Liskeard water acts very vigorously."

This list is quite sufficient justification for the heading of this paper and the urgency of the subject is increased by the fact that at the present time local authorities seem to be making positively no efforts to check the use of leaden service piping. When we realise that half a century before the Christian era Vitruvius condemned lead service pipes and 130 years after that time Galen did the same thing, it is a puzzle to my mind to know how it is that the use of such a poisonous means of conveying water should ever have become general.

The amount of physical suffering, mental[4] degeneration and death brought about by lead poisoning, coupled with the fact that children begotten by poisoned parents are puny, rickety and ill developed, both mentally and physically, makes one feel that the Emperor[5] of olden days who made the use of lead pipes a capital offence was gifted with a prescience and wisdom unknown in our enlightened age.

Batley.

[2] Since writing above this patient has had an attack of right hemiplegia and loss of speech.

[3] See also monograph already alluded to by M. A. Hamon.

[4] See work already quoted by M. A. Hamon.

[5] Vide Empoisonnement par l'emploi des Tuyaux de Plomb pour la conduite des Eaux Potables et des Boissons Alimentaires, par Louis Wagner. Paris, 1887.

PARALDEHYDE: HYPNOTIC AND DIURETIC.

BY J. COCKBURN SYSON, M.B. GLAS. &c.

HAVING frequently had occasion within the last six months to use paraldehyde as a hypnotic it may be of interest to record one or two observations made during the administration of the drug. In a case of senile arterial degeneration with considerable mental depression, restlessness, marked insomnia and where there existed a double aortic murmur, with a mitral regurgitant and enlarged left ventricle, I was induced to try the drug after unsatisfactory results from sulphonal, urethane, chloral &c. At first forty minims in peppermint water were given and this was followed by a state of comparative restfulness, though sleep was not induced. Two hours later, the pulse being unchanged, thirty minims more of the drug were administered and within half an hour the patient dropped quietly to sleep, which lasted, more or less, for four hours. It was described as being more refreshing than that produced by sulphonal and not accompanied by the same depression and uncomfortable sweating. The offensive odour of the drug however was objected to and this could be detected in the patient's breath during the next forty-eight hours. Two nights later the same doses were given, but these failing to produce the desired effect a third dose of fifty minims was allowed three hours after the second. After this third dose it was noticed that, though the patient was evidently asleep, there was considerable muscular twitching and shifting about in the bed. At short intervals he would sit up (his eyes being closed the while) and make incoherent remarks, but when told to go to sleep would lie down again and remain perfectly quiet during periods of ten or fifteen minutes. This lasted for three hours, after which there was still more or less drowsiness, though the patient did not again go to sleep. The pulse was not in any way weakened, but during the ensuing twenty-four hours there was marked muscular weakness and polyuria.

On the third night after the last administration paraldehyde was again given, beginning this time with a dose of sixty minims. In twenty minutes the patient felt drowsy and was asked to lie down and go to sleep. At the end of an hour, being still awake, sixty minims more of the drug were administered, but only short snatches of sleep followed and there was, as on former occasions, considerable muscular twitching and rambling talk. On the day following it was again remarked that the patient voided an excessive quantity of urine. There was no diarrhœa and the appetite was not interfered with. The muscular weakness was again very marked and during nearly twelve hours there was more or less stupor and drowsiness. Having failed to induce a fair amount of sleep with drachm doses, and feeling disinclined to push the drug further, I was forced reluctantly to fall back upon morphia.

In about three weeks from the last administration of paraldehyde cardiac compensation began to fail and there was considerable dropsy about the ankles and half-way up the legs. Remembering the diuretic action exhibited by paraldehyde, I was induced to again have resort to the drug with the hope of getting rid of the dropsy. Ninety minims were given at 10 P.M. Within twenty minutes the patient was asleep, though his rest was disturbed by the muscular twitchings and restless movements already mentioned. At 12 midnight he had become quieter, but was not asleep. The pulse being satisfactory and not apparently affected by the hypnotic, another drachm was administered and further snatches of sleep were induced. Altogether, with two drachms and a half of the drug something like three hours' sleep were procured, and followed by several hours of quiet and drowsiness. During the following day the weakness and unsteadiness of gait were very marked, the patient walking with difficulty and having to steady himself by catching on to objects in his room. But the most striking result was the complete disappearance within twelve hours of the dropsy, which had persisted more or less for a week, and the accompanying presence of polyuria. On a subsequent occasion as much as 120 minims of the drug were given in one dose, followed in two hours by 90 minims, but the excitement and spasmodic muscular movements were so great as to make me think the cure worse than the disease, and so for the

nonce the drug was discontinued. Three weeks had again elapsed since paraldehyde was last given, and, being unable to use sulphonal owing to the extreme after-depression and misery, I determined to again give paraldehyde a trial, but this time in repeated small doses. Beginning at 6 P.M., 30 minims were given, and this was followed at 7 P.M., 8 P.M., and 9 P.M. by 20 minim doses. After the second dose the patient was restful, lying quiet for half an hour though not sleeping. After the third dose the excitement and restlessness began to appear, and when the fourth had been given these were so great that the patient's friends were unwilling to have the drug pushed further. This state of matters lasted for an hour, after which the patient lay quiet for nearly four hours, during which time he had occasional and short intervals of sleep. This result I considered unsatisfactory and did not again use paraldehyde in this case. It is to be noted that at no time during the use of the drug, even when given in such considerable quantity, was there any diarrhœa—an after effect mentioned in the Year Book of Treatment for 1892 (p. 88) as sometimes occurring. From its non-depressing effects upon the heart's action, and since it seems to have diuretic properties, paraldehyde may become a useful hypnotic in cardiac cases where there is dropsy. Though I was induced to give up its use in this particular case I have not lost faith in the drug. The insomnia here was most intractable, and of all the hypnotics used, with the exception perhaps of opium, paraldehyde on the whole gave the most satisfactory results, and can be used where it would be decidedly risky to push the older drug. To sum up, then, it seems to me that, so far as my limited experience of the drug goes, paraldehyde may be looked to as a fairly reliable and safe hypnotic, that its administration is followed by a well-marked stage of excitement, that it does not depress the heart's action, does not interfere with the appetite or digestion, possesses probably diuretic properties and induces a sleep which is described as "refreshing."

Beith, N.B.

A DEMONSTRATION OF ACUTE PNEUMONIA, ITS FORMS AND ISSUES.[1]

BY A. G. AULD, M.D. GLASG.,
GLASGOW WESTERN INFIRMARY PATHOLOGICAL LABORATORY.

ACUTE pneumonia in its pathological aspect is commonly regarded as the summation of a more or less definite and constant series of changes resulting from generalised inflammation in the lung. Thus viewed it is held to be made up of four stages, those namely of engorgement, of red hepatisation, of grey hepatisation, and of resolution. Here is a standard to which the disease is continually being referred, a mould into which it is constantly being cast, but the wider our study of pathology the more liberal becomes our conception of the scope of morbid processes. The stereotyped image gets dashed to pieces as disease manifests itself in its protean aspects. To this broad principle pneumonia forms no exception, its histological features are no less diverse and inconstant than are its issues.

Clinicians well know the various courses which this affection may pursue. Sometimes hepatisation declares itself only to vanish quickly and resolution is promptly effected; in other instances it proceeds wave-like over the organ, closely followed, it may be, by the symptoms of its breakdown. Or it may exhibit a faltering, a persistent, or even a recurrent character. And although the duration of the disease is by no means the measure of its fatality, the latter element will not infrequently yield its readiest solution to a microscopical study of the affected organ.

Under a microscope is placed a specimen of hepatised lung obtained from the body of a young and previously healthy adult. It is the so-called "red" hepatisation, the air-cells being filled with a meshwork of well-formed fibrin, which adheres with considerable tenacity to the alveolar walls. Scattered throughout this fibrin are variously sized epithelial elements, a few leucocytes and a fair proportion of red blood-cells. The alveolar walls themselves reveal but little alteration from the normal, and were attention directed to these alone it would probably be affirmed by most that they were in a state of health. A fibrinous network is further seen to exist in the lymphatics of the adventitious structures of the organ, but beyond this there is little of note to be found. The next specimen reveals a very different state of matters. Herein the fibrinous network is still so far apparent, but it is no longer in contact with the alveolar wall. It appears to be disintegrating into a finely granular mass, which is separated frequently by a somewhat crescentic space from the wall. In this granular mass is a considerable sprinkling of fatty corpuscles with disintegrating nuclei, and somewhat similar though less degenerate corpuscles are likewise seen in fair numbers in the crescentic space. Closely inspecting the alveolar walls, it is found that they are lined with round and spindle-shaped bodies which are evidently the source of many of the corpuscles lying outside. Here, in fact, is seen the process of resolution in the hepatised lung. Very different, again, is the third specimen. It is a section of hepatised lung from an elderly and otherwise unhealthy man. The alveoli are densely packed with cells resembling leucocytes, amongst which not a vestige of fibrin is to be seen. In both lungs the hepatisation was everywhere uniformly thus. The walls of the air cells are, however, intact and their bloodvessels patent and containing blood. In this case also the alveolar walls are seen to be lined with round and spindle-like cells. Between these varieties many gradations are to be seen. Fibrin and corpuscles vary exceedingly. The earlier exudation may be chiefly fibrinous, and if resolution does not take place after the manner described the air cells will become crowded with cellular elements, replacing the fibrin. Sometimes, again, the corpuscles, shed early with the fibrin, are in considerable numbers, when they may exhibit the characters of true pus cells. Or it may be that the cellular element is the dominant one from the commencement, or even the sole element, forming the "yellow hepatisation" of Da Costa.

From the consideration of these phenomena I am led to recognise a typical resolving pneumonia, represented in the three stages of engorgement, hepatisation and resolution; and likewise a pneumonia whose leading feature is a corpuscular hepatisation terminating either in resolution or in destruction of the lung. In the first case we have resolution accomplished without the intervention of this corpuscular consolidation. The fibrinous exudation no doubt loses colour and becomes more cellular in the period of resolution, but this is distinct from corpuscular hepatisation. Hence the term "grey" hepatisation, though convenient, is otherwise objectionable and apt to mislead. The exudation in this speedily resolving pneumonia is identical with that obtained by Paget in the blisters of healthy individuals. On the other hand, in corpuscular hepatisation, the exudation resembles that obtained by the same illustrious observer in the blisters of cachectic persons and called by him "corpuscular lymph." The term "corpuscular" therefore seems to me to be the most authoritative definition for this form of consolidation. As to the light gained from a study of these exudations respecting the gravity of the disease, it may be said generally that when the disease proves fatal in the absence of corpuscular hepatisation we have to look to the severity of the constitutional symptoms, the blood poisoning, or the diminution of the breathing space in the lungs leading of course to failure of the circulation. When, however, the corpuscular lymph is abundant there is a local condition which in the absence of severe or sthenic symptoms is sufficient to cause a protracted resolution (and it is undoubted that this form of pneumonia may resolve) or else cause a destruction of the lung with its invariably fatal termination.

Regarding the derivation of the cellular elements found in the air cells in pneumonia, when these are abundant many of them have no doubt proceeded from the bloodvessels; but careful examination reveals—and this is particularly applicable to the stage of resolution—that a goodly proportion are derived from the epithelial elements lining the walls. Cornil and Ranvier, Rindfleisch, and others thus regarded pneumonia as terminating by a catarrhal pneumonia—a view which I cannot but regard as a travesty of inflammation. On the other hand, I believe that these corpuscles are merely the outcome of a superabundant growth of young epithelium, just as a similar overgrowth of new epithelium is formed on the surfaces of healing wounds.

Is this disease, then, to be regarded as a genuine inflammation? Inasmuch as no changes occur in the connective-tissue cells of the alveolar walls, the process can only be regarded as superficial, the local expression of a general disease. It is this absence of germination in the fixed tissue cells which is the sole anatomical distinction

[1] Substance of Remarks on Microscopical Preparations exhibited to the Pathological and Clinical Society of Glasgow, May 8th, 1892.

between acute pneumonia and acute broncho-pneumonia. I have elsewhere compared the pulmonary lesion of acute pneumonia to the joint lesion of acute rheumatism. As the former differs from broncho-pneumonia, so does the latter from acute synovitis. It is alleged—as for instance by Sturges and Coupland—that hepatisations of lung exist resembling that of acute pneumonia, which are in fact secondary to other diseases or own but a mechanical origin. But such cases are to be suspiciously regarded, and I am inclined to think that they are mostly genuine pneumonias, modified no doubt by the peculiar circumstances under which they occur.

Now as to the issues of this affection. Passing over destructive softening of the lung, abscess formation and gangrene, there remain two conditions which are no doubt rare and consequently ill-understood, but which are none the less highly important. One is somewhat vaguely termed "delayed resolution." By this it is implied that dulness, râles and deficient breathing persist over a greater or less area of lung after the complete subsidence of all acute symptoms. This condition may be present for weeks or months and yet the lung may gradually "clear up" and become restored to health. This is an occurrence of considerable rarity, and, according to Wilks, in ninety-nine cases out of a hundred in which dulness persists after pneumonia it is due to pleurisy. In many cases there is no doubt empyema; but post-mortem, cases are likewise found showing persistent pulmonary consolidation, the air cells containing granular fibrin, mucous flakes and fatty cells, and the alveolar walls being lined with several rows of spindle cells. In such cases there is absence of interstitial changes, at least at first. If, however, complete recovery does not take place there remain two other possibilities. The hepatised area may break down into small abscesses and a form of phthisis is set up, or else the lesion contracts in area and cicatricial changes ensue, leading to a fibrous node, which becomes ultimately buried in emphysematous tissue.

The other issue of pneumonia to which I refer is in induration. Not, strictly speaking, in induration of the lung, but in induration of the pneumonic lung. The first step in this process is the germination (atypical to the disease) of the connective-tissue corpuscles of the alveolar walls. Next, the fibrinous exudation (never the corpuscular) becomes organised. To this form of induration I have applied the term "fibroid pneumonia," for reasons which it is impossible here to discuss. Easily recognised at first, this remarkable transformation of the pneumonic products exhibits changes both of growth and of decay. To trace microscopically the evolution of fibroid pneumonia from its inception to its various terminations is a task of considerable difficulty. Outwardly indeed and to the naked eye this lung is sufficiently distinguished from Corrigan's cirrhosis in its bulky character and the comparative absence of bronchiectasis. Further, it is found as an independent affection not consecutive to an acute pneumonia. But many cases of what is termed chronic pneumonia or interstitial pneumonia or Clark's phthisis are in reality advanced cases of this fibroid pneumonia. No doubt this statement may be criticised and questioned, but it is none the less capable of proof, direct, continuous and complete.

Glasgow.

LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY, LIMITED.—A meeting of the members of the medical profession in Hampstead and the neighbourhood was held on June 25th at 127, Fellowes-road, South Hampstead, to establish a division of this Society for the north-western district of London. The Council of the Association had, under their articles, large powers, of which they only retained such as were absolutely necessary to secure the stability of the Society; all other powers were transferred to the Branch Councils, which were thoroughly representative of their respective districts.

WEST RIDING MEDICAL CHARITABLE SOCIETY.—The annual meeting of this Society was held at Wakefield on the 14th inst. After a lengthy conference of the officers, the chair was taken by Dr. Wright, president for the year. The report stated the Society to be in a prosperous condition, with about 450 members, whilst the invested capital amounted to upwards of £20,000. The claims of twenty-four applicants were investigated and awards were granted for the year amounting to £830. The Society was originated in 1829 in Wakefield.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se compare.—MORGAGNI *De Sed. et Caus. Morb.* lib. iv. Procemium.

MIDDLESEX HOSPITAL.

TWO SURGICAL CASES.

(Under the care of Mr. HULKE.)

SURGEONS are, it is believed, without exception agreed that lacerations of the urinary bladder, implicating those parts of the viscus where a complete rent of all its coats involves direct outflow of the urine into the peritoneal sac, should be immediately closed by suture. Here every hour's delay adds to the already great danger of the injury, and were it possible to diagnose a *partial* laceration, implicating the mucosa and muscular walls, but leaving the peritoneum untorn, it is suggested that the safest course would be to treat this similarly, since with the infiltration and softening of the injured coats which will certainly ensue there must be a great risk of the peritoneal coat giving way, and thus of a *partial* becoming a *complete* laceration. Unfortunately such early precise recognition of the true nature of the injury as would warrant instant surgical interposition is not in every case possible. The initial shock is not always great and where present is not pathognomonic, and it may soon lessen. The presence of urine, as is well known, is not in all instances so poisonously irritating to the peritoneum as to immediately excite inflammation of the serous membrane. Doubtless much depends on the quality of the urine. The analogy of cellular urinary extravasation proves this; thus a familiar instance is the rapid sequence of gangrene of the perineal tissues and scrotum upon the extravasation into them of urine contaminated with inflammatory substances and with products of decomposition, such as is not uncommon where the urethra gives way behind a stricture in concurrence with a chronic cystitis, whereas extravasation of normal urine—particularly the limpid urine of young persons—such as occurs with fractures of pelvis, occasions swelling, which for some time may differ but slightly from that of a simple œdema. Of course, if on introducing a catheter no, or very little, urine is found in the bladder, whereas on gently pushing the instrument a little further in a larger quantity escapes, this affords a strong presumption of a complete laceration; and this presumption becomes a certainty if on depressing the handle the vesical end of the catheter mounts and projects the abdominal wall over the pubis. These signs are, however, not in every case patent and obviously recognisable, even where a rent is complete. That this is a fair statement of the difficulties surrounding the diagnosis is illustrated by the following case. Here the bloody tinge of the urine raised a strong presumption of injury of the bladder, but the quantity of urine that the bladder apparently held seemed to contraindicate a complete rent; the early subsidence of the symptoms of great shock and the retardation of symptoms of peritonitis conspired to mislead and so led to the postponement of laparotomy, which, had the true nature of the accident been immediately perceived, would have been undertaken with a reasonable prospect of the patient's recovery.

CASE 1. *Extensive laceration of the urinary bladder; laparotomy and suture of rent; death from peritonitis.*—C. E——, aged thirty-three, in the evening of Jan. 14th, 1892, in rough horse-play with others with whom he had been drinking, was butted sharply in the abdomen. He at once felt great pain and he was shortly after this brought to the hospital at 9 P.M. He had, he said, passed urine two hours previously. On reception into Founder ward the house surgeon noticed that he had an anxious expression, coldness of surface, a small, weak, slow pulse. He complained of severe pain in the lower part of the abdomen and of an urgent desire to micturate. The front of the abdomen was everywhere resonant. A catheter was passed without difficulty and some urine (roughly judged by the ward sister to be six to eight ounces), very slightly tinged with blood, was drawn

off. On withdrawing the catheter a small blood-clot was noticed entangled in its eye. At six o'clock on the following morning, there being again an urgent wish to micturate, the house surgeon again used the catheter and drew off nearly as much urine as on the preceding evening; it was still slightly blood-tinged. At 10 A.M the pulse was 126 and the temperature 99·7°. At the midday visit, when he was first seen by Mr. Hulke, the symptoms of great shock had passed off. He complained of some pain over the pubes, where there was found a central dulness suggestive of a full bladder. With a catheter twenty-two ounces of urine, very slightly blood-tinged, were drawn off, after which the dull area was found resonant. When in the bladder the catheter was gently used as a sound for the detection of a rent in the viscus, and with a negative result. The accumulation of so large a quantity of urine apparently in the bladder seemed incompatible with the supposition of a complete rent involving its peritoneal coat and allowing the efflux of urine from the cavity of the bladder into the peritoneal sac; and to justify the diagnosis made by the admitting officer and house surgeon of shock from severe blow on the abdomen, with perhaps bruising and possibly partial laceration of the bladder or a slight laceration of that part of it uncovered by peritoneum, a close watch was kept for any sign of extravasation into the pelvic cellular tissue. In the early evening increased pain in the abdomen and some tenderness and vomiting supervened. This was attributed to the supervention of peritonitis. Small doses of morphia were given hypodermically and at 12 midnight leeches were put on. This was followed by ease and apparent improvement; he took and retained liquid nourishment.

16th.—10.30 A.M.: Temperature 100°; easier. In the evening vomiting returned, and he had more pain in the abdomen, which had become distended; urine drawn off is turbid and offensive; cystitis was present.

17th.—Vomiting; much abdominal pain and great distension. An exploratory laparotomy, which had been considered and previously thought unwarranted, was decided on. The abdomen was opened—after passing the catheter and withdrawing three ounces of offensive bloody urine—by an incision three inches long, just above the pubis and afterwards extended nearly to the umbilicus. A large extravasation of blood in the subperitoneal cellular tissue was found behind the rectus muscle. On dividing the peritoneum several ounces of grumous bloody fluid escaped. At first only coils of highly congested small intestine, coated and agglutinated by recent exudation, were apparent, but on displacing these gently upwards much highly offensive puriform fluid welled up from the situation of the urinary bladder, and when this had been sponged out a rent, nearly saggital in direction, about two inches and a half long in the posterior wall of the bladder, was brought into view. Its edges were swollen, soft and stained with infiltrated blood. The rent was closed with a double row of closely placed sutures, the deeper series including all the tissues down to the mucosa and the superficial series, the peritoneum with perhaps a thin plane of muscular tissue. The bladder was then injected with a watery solution of boric acid and proved watertight. The peritoneum was flushed out and cleaned. The abdominal wound was sutured in the usual manner and the bladder was kept drained by a full-sized soft red-rubber catheter. For two hours after the patient was put back in bed vomiting ceased, but it soon returned. The peritonitis ran a rapidly fatal course and death occurred next morning (the 18th) at 6 o'clock. At the necropsy the sutured rent in the bladder was found still watertight, no leakage occurring under considerable pressure. The pathological appearances observed were those of an intense, widely diffused peritonitis, which had evidently its focus in the vesical injury.

CASE 2. *Immense dermoid cyst deeply seated in thigh; extirpation; recovery.*—Very many, perhaps the majority, of dermoid cysts other than those occurring in relation with the ovaries and their annexes are met with in situations suggesting genetic relation with embryonic clefts, using this latter term in a very wide sense; but this explanation is not universally applicable, and the present is an instance of such exception, which, on account of its singularity, seems to deserve publication. A tall, stout, rather muscular brunette, aged forty-seven years, was admitted into Bird ward on Jan. 15th last, having an immense swelling in the inner part of the right thigh. It extended from the groin to one hand-breadth from the knee, and it had a transverse girth equal to if not greater than that of the thigh itself. Near its lower end the overlying skin in a circular area of several inches was red, and the subcutaneous tissues corresponding to this were matted and œdematous. In the middle of this red œdematous area was a small ulcerated spot from which oozed a turbid, milky, inodorous fluid. Except within this area where the wave was damped by the overlying œdema, this great swelling everywhere distinctly fluctuated. By its great bulk and position the tumour embarrassed the patient much in walking, giving her a very awkward gait, in spite of which inconvenience she had continued to work until the skin inflamed and broke, which finally obliged her to seek advice. When lying on her back, as in bed, with her lower limbs extended, the inner part of the tumour covered her vulva and rested on the inner side and the front of the left thigh. It was observed that during active contraction of the adductor longus muscle the tumour became firmer, evidencing its compression by this muscle, and it was further noticed that the limb having been passively abducted, in which attitude the tumour rested flaccidly on the mattress, contraction of the adductor magnus caused the tumour to rise up off the bed and made it tense. At the upper and inner part of the tumour the adductor gracilis was traceable on to its surface; whilst lower down the front and inner part of the tumour was obliquely crossed by the sartorius. The fingertips could be pressed down between the upper border of the tumour and the brim of the pelvis, so making it evident that the tumour did not extend under Poupart's ligament. The patient's account of the tumour was remarkable. It had existed from her childhood. In her eleventh year, the swelling being then as large as a small orange and at the "top of her thigh," her mother sought medical advice for it, and being told that any operation for its removal would be dangerous and could not be undertaken without risk to the child's life, she later exacted from her a promise that she would never permit any operation to be performed upon her. The patient had therefore uncomplainingly borne with the increasing inconvenience until at last her condition became unendurable.

Fluctuation was so apparent that of the cystic nature of the tumour there could not be any doubt; and the nearly equal distinctness of the percussion wave through the great swelling in every direction established its unilocular character. The character of the fluid oozing from the little opening described showed that sebaceous material was one of the contents of the cyst. The differential diagnosis was thus narrowed to the discrimination between a sebaceous retention-cyst, or wen, and a dermoid. But wens can only arise where sebaceous glands are present; they are therefore superficially seated in intimate relation with the integument; but this huge cyst was plainly seated under the deep fascia, amongst the muscles, and this circumstance favoured the supposition of its being a dermoid. Its locality, the thigh, though unusual for a dermoid, could not be taken to exclude this kind, since, although, as already mentioned in numerous instances, dermoids show a distinct preference for the sites of embryonic clefts, into which it is conceivable that epiblastic tissues may become fixed and later give rise to cysts, yet other instances of dermoids have been met with where such mode of origin is less obvious—e.g., dermoids in the brain—and yet others have been recorded where such an origin seems quite excluded—e.g., dermoids in solid abdominal organs as in the liver. That this cyst had a pelvic origin was very improbable, seeing that its upper border did not transgress the line of Poupart's ligament; but a pelvic communication through the obturator opening could not be absolutely excluded and the possible existence of such was hinted by the ascertained relations of the cyst to the adductor muscles. However, upon a consideration of all the circumstances, an extension of the cyst from the pelvis through the obturator foramen into the thigh appeared so extremely improbable that it was not deemed necessary to settle this by a vaginal examination, the patient being an unmarried person.

The practicability of a complete extirpation appeared highly probable, and since it offered the only prospect of relief, it was advised and was accepted by the patient. It was done on Jan. 17th, the removal of the cyst being effected through a long incision from the groin to the lower end of the tumour. The operation was a rather long one, owing to the close adhesion of the cyst wall to surrounding parts, and particularly along its outer side, where its close relations to the large vessels necessitated cautious dissection. At its uppermost limit, where the cyst had a leathery thickness and toughness and which was presumably its oldest part, it was intimately attached to the periosteum of the front of the os pubis,

just under the attachment to this of the adductor longus; and here, springing from the inner surface of the cyst, were two little tufts of black hair. Hæmorrhage having been arrested—a rather large number of arteries required tying—the wound was flushed with hot water and then with mercuric chloride, and its edges brought together with aseptic silk sutures. Three drainage-tubes were inserted. An attempt was made to keep the superficial and deep parts of the wound in contact by aseptic cushions and bandaging, and the whole limb was fixed by the aid of a long outside thigh-splint.

In spite of much care to secure and maintain an aseptic condition suppuration ensued at the end of a week. This seemed, probably rightly, attributable to much derangement of the dressings through the patient's great restlessness during the first days after the operation. The integumental incision closed in the greatest part of its extent immediately, but troublesome sinuses persisted during several weeks. On April 28th the patient was sent to the seaside, whence she returned on May 12th looking remarkably well. She then walked "with perfect comfort" and she said that her right leg was nearly as strong and able as her left. She has since resumed her occupation, cicatrisation of the entire wound has long been complete and she says she has better health than she had enjoyed for years previously.

Medical Societies.

OBSTETRICAL SOCIETY OF LONDON.

On Menstruation in Cases of Backward Displacement of the Uterus.

A MEETING was held on July 6th, Dr. J. Watt Black President, in the chair.

Dr. HERMAN read a paper on Menstruation in Cases of Backward Displacement of the Uterus. The paper was based upon an analysis of 388 cases of retroversion and retroflexion of the uterus. In about 60 per cent. of the entire number there was no alteration in the quantity of the menstrual flow. In some 20 per cent. there was amenorrhœa, but in every instance of amenorrhœa it was accounted for by causes irrespective of the displacement. In about 50 per cent. of those in whom the menstrual function was not in abeyance there was no alteration in the quantity. In nearly 40 per cent. hæmorrhage was increased. In patients of the same class as those in whom retroversion and retroflexion commonly occur, but whose uteri are normal as to position, the frequency of incidence of causes of hæmorrhage other than gross organic disease and pregnancy is probably about 30 per cent. The proportion of women with backward displacements who suffered from hæmorrhage was thus larger by about 10 per cent. than the proportion of women whose uteri are normal in position. It was therefore reasonable to believe than in this small proportion of cases the hæmorrhage was due to the displacement. Among women with backward displacement of the uterus in whom the menstrual function was not in abeyance pain at the period was absent in only about 20 per cent. Menstrual pain was commoner in those women who had backward displacement of the uterus than in those who had not; and also in those who had increased hæmorrhage.—Dr. HAYES thought the value of the paper impaired by the fact that the amount of hæmorrhage in the cases was not specified. Hæmorrhage varied so much even in healthy women under trifling distractions that comparisons were difficult and misleading. Again, in backward displacements the ovaries were often prolapsed, giving rise to troublesome bleeding; in the paper no mention was made of the position of the ovaries. Respecting the dysmenorrhœa, he would have liked some specification of the amount of pain in the individual cases.—Dr. RUTHERFOORD asked how many of the 40 per cent. of the women with increased menstrual flow were multiparæ and what was the average number of children per woman. He thought subinvolution, as well as retroflexion, might account for the menorrhagia.—Dr. HEYWOOD SMITH asked if any observations had been made among so large a number of recorded cases as to the number of cases of retroflexion of the gravid uterus.—Dr. ADDINSELL made some remarks.—Dr. HERMAN, in reply, said that no doubt in many of his cases subinvolution existed; this was also present among the cases with which he had compared those of displacement. He did not think subinvolution was especially common in multiparæ. Prolapse of ovary was present in many of his cases, but he did not know the exact number. He had often observed pregnancy occur in backward displacement, though he could not, without reference to his case-books, say how often. In a paper read in December, 1891, he had discussed this point. He found the sound generally caused pain in patients of all classes when it passed the internal os, but he had not perceived anything to make him think there was stricture at the internal os.

Mr. MEREDITH contributed notes on Two Cases of Double Ovariotomy during Pregnancy. In the first case, a primipara, two papillomatous cysts were removed at the third month of pregnancy. Extensive adhesions necessitated the use of a drainage-tube for thirty-six hours, yet the patient convalesced uninterruptedly well, and was delivered at full term of a well-developed boy. In the second case, a multipara, aged thirty-one, the left ovary was a multilocular cystoma with a recently twisted pedicle; the right ovary was a dermoid cyst. No drainage-tube was used. The patient recovered perfectly and was safely delivered at term of a daughter. In both cases delivery was followed by normal contraction of the uterus and by perfect involution subsequently. Only four cases of double ovariotomy during pregnancy had been previously recorded. All the mothers recovered, but in only two was a living child born, one prematurely at the eighth month and the other at full term.—Mr. DORAN said it was right to remove an ovarian cyst during pregnancy, and if on removing one ovary the other was found cystic it also ought to be removed; indeed, its removal hardly increased the chances of abortion, and if left behind after irritation by handling, it might set up uterine contractions. The Fallopian tube in these cases was specially sensitive. The evidence that ovalution continued when both ovaries were in an advanced stage of cystic disease implied that when thus diseased they influenced the uterus prejudicially, hence their thorough removal in cases of pregnancy was highly desirable.—Dr. LEWERS was much interested in the first case, where a drainage-tube had been used and where there were papillary growths on the outer aspect of the cysts without infection of the peritoneum. He thought it would be difficult to use a drainage-tube when pregnancy had advanced, as Douglas's pouch was then practically obliterated by the gravid uterus. He had had a case of double ovariotomy recently where there were numerous papillary growths from the outer aspect of the cysts without any infection of the peritoneum, and not due to the intra-cystic growth bursting through the cyst wall. Probably the papillary growths had existed a considerable time, as three years before he operated the patient had been advised elsewhere against operation on the supposition that she had pelvic cancer.—After some remarks by Mr. BLAND SUTTON and Dr. HEYWOOD SMITH, Mr. MEREDITH briefly replied and the meeting closed.

The following specimens were shown:—

Dr. LEWERS: (*a*) Primary Carcinoma of Uterine Body; (*b*) Microscopic Sections of same.

Dr. DES VŒUX: Hæmorrhagic Ovaries.

Mr. BLAND SUTTON: (*a*) Decidual Cast from Case of Ectopic Gestation; (*b*) Papillomatous Ovary.

Dr. CULLINGWORTH: Two Cases of Pyo-salpinx.

Dr. W. DUNCAN: Knitting-needle removed from Pregnant Uterus by Abdominal Section.

OPHTHALMOLOGICAL SOCIETY.

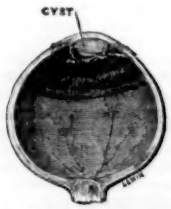
Implantation Cyst of the Iris after Cataract Extraction.—Accidental Vaccinia of the Eyelids.—Symmetrical Dacryoadenitis.

AN ordinary meeting of this Society was held on July 8th, the President, Mr. Henry Power, F.R.C.S., in the chair.

Mr. RICHARDSON CROSS and Mr. TREACHER COLLINS contributed a paper on two cases of Implantation Cyst of the Iris after Cataract Extraction. The first was that of a woman aged sixty-four, who had had an uncomplicated extraction of cataract with iridectomy performed on her left eye, and subsequently obtained vision which enabled her to see to read and sew. Seven months after the operation an attack of acute glaucoma came on and the sight rapidly failed. The eye was excised a year later. The pathological examination of the eyeball showed that there was a large cyst in the

anterior chamber lined throughout by laminated epithelium. It was bounded in front by the posterior surface of the cornea, below by the anterior surface of the iris, which curved round it, and behind partly by the lens capsule and partly by the hyaloid of the vitreous. The iris, where it ceased to be in contact with the cyst, was in apposition with the cornea.

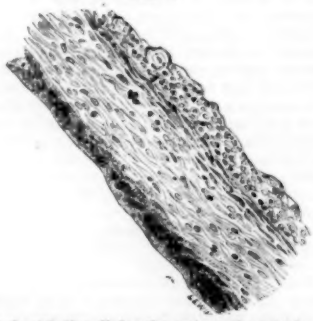
FIG. 1.



Lateral half of the eye of Case 1, showing the position of the cyst.

The angle of the anterior chamber was closed in its entire circumference, a portion of the root of the iris having been left above in the situation of the coloboma. The optic disc was cupped. The second case was that of a man aged forty-one, who had a cataract extracted from his left eye with iridectomy. At the conclusion of the operation the anterior chamber was washed out with a solution of the biniodide of mercury of the strength of 1 in 25,000. Striated keratitis came on subsequently and persisted. Seven months later a thick opaque membrane filling the coloboma was needled; after this the eye continued painful and bloodshot, the cornea became more hazy, and new bloodvessels developed in it. The eyeball was ultimately excised two years after the extraction. At the pathological examination a cyst was found in the anterior chamber lined by laminated epithelium closely resembling that on the surface of the cornea, the most flattened cells being towards the interior of the cyst. In shape it was somewhat triangular, one side being in contact with

FIG 2



Laminated epithelium lining the cyst, on the anterior surface of the iris.

the cornea, another with the iris and a third with the lens, capsule and vitreous. For the determination of the mode of formation of these cysts the authors considered that it was necessary to ascertain the origin of the laminated epithelium found lining them. Two possible sources suggested themselves:—(1) That it was derived from proliferation of the endothelium lining, Descemet's membrane and the anterior surface of the iris; (2) that some of the surface epithelium was carried in at the time of the operation and had subsequently proliferated. The latter view seemed the more probable because the epithelium was found on the surface of the lens capsule and the hyaloid of the vitreous, and was not confined to the iris and Descemet's membrane, and because epithelial-lined cysts had been produced experimentally in rabbits' eyes by such implantations of surface epithelium. The first case was of additional interest from the fact that the eye became glaucomatous. The cyst, which filled the whole of the coloboma, must have prevented fluids passing through it into the anterior chamber. Consequently the iris became pressed forwards into contact with the cornea and folded round the cyst, very much as it is round a lens when dislocated into the anterior chamber and blocking the pupil. In this way the whole of the filtration area of the cornea became closed by the periphery of the iris and the exit of intra-ocular fluids arrested. The paper was illustrated by lantern slides.—The PRESIDENT thought it remarkable that cysts from implantation of surface epithelium were not more common after extraction of cataract.—Mr. HULKE said that cysts in relation with the iris were usually the consequence of injury, but that the evidence in the cases brought forward showed satisfactorily that these resulted from operation.

Mr. TATHAM THOMPSON reported a case of Accidental Vaccinia of the Eyelids, occurring in a man aged thirty-eight. The lids were œdematous and painful and at the outer canthus the edges of both lids were involved in a purulent ulcer with indurated margins. There was great tenderness of the parts and painful enlargement of the glands at the angle of the jaw and down the sterno-mastoid. The man's child had been vaccinated a short time previously and his wife had been accidentally inoculated therefrom. The man had suffered from slight marginal blepharitis, with excoriation at the outer canthus, and the inoculation had probably occurred at that point.

Mr. SIMEON SNELL communicated a paper on a case of Symmetrical Dacryo-adenitis. The patient was a married woman aged thirty-six, who came under observation on March 22nd. Ten weeks previously the right eye became inflamed; this was soon followed by a swelling beneath the upper lid, which gradually increased and was accompanied by pain. A similar condition on the left side had begun a week before she came to the hospital. Both lacrymal glands were enlarged, hard and tender to the touch, the right being much more affected than the left. The history threw no light upon the cause of the disease. In spite of the absence of evidence of syphilis, iodide of potassium was given (five grains) three times a day and was rapidly followed by subsidence of the swelling and other signs. During the time the lacrymal glands were decidedly enlarged there was an almost complete absence of tears on the right side and a noticeable diminution in their secretion on the left side.

The following cases and card specimens were shown:—

Mr. STEPHENSON: A Movable Stencil Plate for Accurate Delineation of the Meridian of the Retina.

Mr. LINDSAY JOHNSON: A Modification of Priestley Smith's Perimeter.

Mr. JULER: Fundus Changes (after Influenza) resembling Albuminuric Retinitis.

Mr. SHEPHERD: A Cutting Strabismus Hook.

Mr. TATHAM THOMPSON: (1) Episcleral Gumma; (2) Rupture of Choroid and Retina in the Region of the Macula; (3) Rodent Ulcer of Face; (4) Recurrent Sarcoma of Orbit.

Mr. BRAILEY: Transplantation of Flap of Skin from the Arm for Ectropion.

Dr. WOOD: Partial Detachment of Retina, with Unusual Dilatation of Vessels.

The annual general meeting was held at 9.30, and the following list of officers elected for the ensuing year:—President: Mr. Henry Power. Vice-Presidents: Dr. James Bankart, Exeter; Dr. John Hughlings Jackson; Mr. George Lawson; Dr. William M. Ord; Dr. D. C. Lloyd Owen, Birmingham; Mr. Simeon Snell, Sheffield; and Mr. John Tweedy. Treasurer: Mr. George Cowell. Secretaries: Dr. Charles E. Beevor and Mr. Gustavus Hartridge. Librarian: Mr. W. Adams Frost. Other Members of the Council: Dr. James Anderson; Mr. F. Richardson Cross, Bristol; Dr. James McKenzie Davidson, Aberdeen; Mr. Robert W. Doyne, Oxford; Mr. Henry Eales, Birmingham; Mr. J. R. Lunn; Dr. J. A. Ormerod; Mr. Herbert W. Page; Mr. D. D. Redmond, Dublin; Dr. W. C. Rockliffe, Hull; Dr. G. H. Savage; and Dr. A. Quarry Silcock.

ASSOCIATION FOR THE ORAL INSTRUCTION OF THE DEAF AND DUMB.—The annual meeting of this Association was held on the 13th inst. The report stated that thirty-four boys and fifteen girls had attended the courses of lectures during the past year, which were given under the German oral system. The committee regretted that they had not been able to supply as many teachers as were wanted, particularly for private tuition, and expressed a hope that the Training College would receive more pupils. The cash statement showed a slight deficiency, and as the Association is dependent on subscriptions, an earnest appeal was made for additional funds.

Reviews and Notices of Books.

A Handbook of Hygiene and Sanitary Science. By GEORGE WILSON, M.A., M.D., F.R.S. Edin., D.P.H. Camb., Fellow of the Chemical Society, &c. Seventh Edition. London: J. & A. Churchill. 1892.

THE merits of a book which has run through several editions must by this time have been so well recognised as to need no lengthy notice in our columns. And yet the simple fact that a book has reached the seventh edition arrests attention and supplies its own comment. If it had not filled a void and furnished much valuable and useful information it is clear that it could not have attained the popularity which "Wilson's Handbook of Hygiene" has secured.

The present edition has been enlarged to the extent of more than 200 pages, and contains a number of new woodcuts illustrative of those parts of it which deal with ventilation, sanitary fittings and drainage, house building, isolation hospitals, and parasitic diseases. It seems to have been carefully revised and brought up to date, many of the chapters having been wholly or in great part rewritten, whilst two new chapters on climate and meteorology and disposal of the dead have been added. When a man has to select a cheese he can judge of its quality by a sample from its interior and happily does not require to eat the whole to form a correct judgment. We have gone further than one sample, however, for we have taken a good many pages as samples and compared some sections of this seventh edition with those of an earlier edition of the same work. The chapters on Food, Removal of Sewage and House Refuse, Sewage Disposal, Communicable Disease with its summary of the most recent advances in bacteriological research, and that on Disinfection and Disease Prevention, are honestly and well done. The chapter on Vital Statistics is a difficult one to arrange properly and lucidly, so as to explain methods and guard against the various pitfalls in the path of the enthusiastic but unwary novice in statistical science. *En passant* we may say that we do not see any allusion, beyond the brief remark at page 246, to the contamination of water with zinc which has been referred to by some chemists and authors. A great deal of labour and care must have been expended on the composition and compilation of this handbook. The subject of Sanitary Science is a big and growing one, and the additions to our sanitary legislation of late years have enlarged the sphere of functions, increased the responsibility, and multiplied the duties, of all concerned with public health. Medical officials, candidates for public health diplomas, local surveyors and sanitary inspectors generally will find a great quantity of information in this volume which it concerns them to know. We can honestly speak of it in terms of high commendation.

The Essentials of Histology. By E. A. SCHÄFER, F.R.S., Jodrell Professor of Physiology in University College, London. London: Longman, Green and Co. 1892.

A THIRD EDITION of this well-known work needs but little recommendation. The object of the book is to supply the student with directions for the microscopical examination of the tissues. A proper knowledge of histology can only be obtained by a practical study of each individual organ. It is not sufficient that the student should be provided with a series of prepared specimens and be told to "read them up" from a book; he should obtain the organs and prepare the sections for himself, and in so doing he will secure a far better and more lasting idea of the structure of the tissues than by any other means. This book is divided into forty-five lessons, each of which would occupy a class from one to three hours. The methods may be thoroughly trusted, as only those "are recommended upon which experience has proved that full dependence can be placed." Needless to say that with such an author as Professor Schäfer the work is complete in every detail.

Each "lesson" commences with practical directions as to how to secure and prepare the specimens or sections and then full descriptions are given as to what should be observed. The illustrations are numerous and excellent and greatly add to the value of the book. One of the greatest difficulties experienced by students is to understand the structure of the nervous system. It is necessarily by no means easy to demonstrate clearly the course of the numerous fibres and the arrangements of the cells and ganglia, but by the aid of diagrams and drawings the author has succeeded in laying before the reader by far the most succinct and satisfactory description which we have ever seen. Take, for example, the structure of the cerebrum. Six sections taken from various parts of the hemisphere, and admirably reproduced, give as good an idea as possible of the arrangement of the various layers, whilst the full descriptions which accompany them will teach the student in a comparatively short time all that he need know on this complex subject. By the previous editions the success of the book has been ensured, and we can only pronounce the present edition a great improvement on the two which have gone before, excellent though they were. We cordially recommend the work to all students.

Transactions of the Seventh International Congress of Hygiene and Demography. Vol. XI.: Indian Hygiene and Demography. Edited by C. E. SHELLEY, M.A., M.D., assisted by the Hon. Secretary of the Indian Committee. London: Eyre and Spottiswoode. 1892.

THE labour of producing the voluminous transactions of the great Congress which was held in London last year is steadily progressing, and certainly few volumes can be more important than the one before us. The book opens with a lengthy, valuable and elaborate paper by Sir William Moore, K.C.I.E., on Sanitary Progress in India, in which facts collected from a great variety of sources are brought together, while the results of sanitation are shown by many statistical tables. This paper makes it very clear that sanitation in a tropical country has its special difficulties and that methods which work well enough here may fail in India. This paper, as well as those by Surgeon-Major Hendley, C.I.E., on Sanitation in Rajputana, by Surgeon-Major Kirtikar on the Sanitary Wants of the Bombay Presidency, by Assistant Surgeon Ramji Ghole on the Hygienic and Demographic Condition of India, by Mr. Dhurandhar on the Sanitary Condition of Towns and Villages, and by Mr. Lionel Ashburner on Legislative Action as applied to Village Sanitation, make it plain that hygiene in India, to be successful, must begin in the homes of the people and that the apathy, ignorance and superstition of the people constitute a dead weight with which it is an almost hopeless task to attempt to deal. The papers by the native gentlemen who made communications to the Congress will be read with special interest, combining as they do an accurate knowledge of the natives and their wants with a knowledge of medicine and sanitation, for the most part acquired in Europe or at the hands of European teachers. Mr. Bypamjee's paper on Bhavnagar, Dr. Fernando's paper on Ceylon, Mr. Chotalali's paper on the City of Ahmedabad, Mr. Ollivant's paper on Bombay, and Major Temple's paper on the City of Rangoon all serve to bring prominently before the mind's eye the actual state of sanitation in our great Indian dependency and the possibilities of effecting improvements in the future.

Certain other papers which were read in other sections of the Congress have been added to this volume and are here printed in duplicate, because it was felt that the whole of the

Indian papers should be included in one volume in order to render the book as useful as possible to those who are interested in Indian sanitation. These supplementary papers include the Prevention of Fever, by Sir W. Moore; Sanitation in India, by Mr. Baldwin Latham; the Water-supply of India, by Surgeon-Major Pringle; Enteric Fever in India, by Professor Notter; Hygiene for the Zenanas, by Surgeon-General Francis; and two papers on Factory Legislation, by Mr. Holt Hallett and Dr. Bahadhurji. In conclusion, as this is a matter which affects the public at large, we may state that this volume may be had separately for 2*s.* 6*d.*, and we earnestly hope that it will be widely read.

The Science and Art of Midwifery. By WILLIAM THOMPSON LUSK, A.M., M.D. Fourth Edition. London: H. K. Lewis. 1892.

DR. LUSK'S excellent treatise has in former editions proved to be to both students and practitioners a safe guide to the practice of midwifery. This new edition, which in may parts has been entirely rewritten, embodies all the most important advances in obstetric science which have been made since the appearance of the previous issue in 1885. Many modifications have taken place during these years in the theory and practice of this science consequent upon more careful investigations by several observers in anatomy and pathology. Most of these results are set forth by Dr. Lusk with due discrimination. The modern development of aseptic surgery is manifest in the treatment of many of the complications of the puerperal state. The book contains two very instructive chapters dealing with the latest phases of questions relating to the febrile conditions which occur during the puerperium, and full justice is done in the work to the bacteriologists whose researches have given us the true explanation of these much-dreaded complications.

Notes on Dental Practice. By HENRY G. QUINBY, L.D.S.I. London: J. & A. Churchill. 1892.

A SECOND EDITION of Mr. Quinby's Notes on Dental Practice is a welcome addition to dental literature. It comprises the teaching of a conscientious worker of long experience, and will well repay perusal by the student or practitioner. Perhaps the most valuable portion of the book is that relating to the treatment of the temporary teeth, which are too commonly regarded by parents as of little importance, whereas their welfare has a profound influence upon their successors. When the first teeth are decayed the first step is to gain the confidence of the little patient by gentleness and kindness and to correct the preconceived idea of dread of a visit to the dentist. Fillings should be of a simple character, of which guttapercha, all things considered, is the best. Gold stoppings in such cases are not only unnecessary but absurd. Extraction is rarely necessary as a mere means of relief of pain, and should only on exceptional occasions be resorted to; for premature removal often results in a contraction of the alveolus, which impedes the eruption of the permanent tooth, and, further, if performed early, the developing tooth may from the force used be wrenched out of its normal position. When second dentition is in progress it is invariably bad practice, although too common, to remove two temporary teeth to make room for a permanent one. In the chapter devoted to the subject of extraction as a means of preventing decay the author makes the pertinent remark that in deciding upon this procedure the history of other members of the same family should always be taken into consideration. In the treatment of irregularities many practical points are brought forward, and the importance of securing the active coöperation of the parents is impressed upon the reader. When dealing with the subject of the treatment of adult teeth Mr. Quinby's remark is surely not to be taken seriously when he says of the rubber dam and the saliva ejector that their chief use is "for the convenience of the dentist, because it enables him to leave his patient, without danger to his work, and go to his lunch or see another case for a moment," but rather as a protest against the abuse of these adjuncts—valuable alike from the operator's and the patient's point of view to the dental armamentarium. The book closes with a chapter on anæsthetics for dental purposes written by Dr. Briggs.

Analytical Records.

NATRIUM SALICYLICUM PURISS. PULV. AND ACIDUM SALICYLICUM PURISS. PULV. (DR. HEINRICH BYK, BERLIN).

(R. W. GREEFF & CO., 29, MINCING-LANE.)

IN consequence of the disturbances of a more or less severe, and in some instances grave, nature which have followed on the employment of salicylic acid synthetically prepared from phenol, several chemists have been induced to investigate the subject, with a view of discovering in what respects the artificial acid differs chemically from that obtained from oil of winter green, or from that interesting body, salicin. Eventually the difference was found to be due chiefly to the presence in the artificial acid of creasotic acid, which results from the use of impure phenol and also of para-hydroxybenzoic acid and hydroxyisonaphthalic acid in its manufacture. The presence of the two latter substances is referable either to the use of caustic soda containing potash or to undue raising or lowering of the temperature during manufacture. Professor Charteris, in a series of comparative experiments on rabbits, showed that natural salicylic acid in 10-grain doses and the sodium salt in 32-grain doses had no deleterious effects on rabbits weighing 2½ lb. Artificial salicylic acid, on the other hand, in 10-grain doses and the sodium salt prepared from the artificial acid in 18-grain doses caused the death of rabbits of the same weight. In fact the very best specimens of the artificial acid sold as chemically pure proved fatal to two rabbits, while in others it caused marked prostration and paralysis. With less pure specimens fatal results followed. It is satisfactory therefore to learn that a simple process has since been adopted by which these powerfully toxic impurities may be carefully removed and a perfectly pure acid obtained. The process consists merely in treating a hot aqueous solution of the artificial acid with chalk till it becomes neutral. The liquid is allowed to cool, when the sparingly soluble calcium salicylate separates out in hard glistening crystals, while the impurities remain in solution. The calcium salt so obtained is recrystallised, more than once if necessary, from hot water and then decomposed with hydrochloric acid. The salicylic acid thus set free is washed with cold water and finally crystallised with pure spirit. So prepared the acid occurs in large, well-formed, prismatic crystals, which are exactly similar in appearance to the crystals of the natural acid; and the melting point, solubility and other properties of the two substances are identical. Moreover, physiological experiments with this purified acid showed that even with larger doses there was no paralysis or depression when it was administered to rabbits. We are not aware whether the acid above or the sodium salt was prepared in this way, but according to the chemical and physical tests we applied it is analogous in all respects to the natural product. The melting point was exactly 156° C., the crystals were well formed, and no carbolic acid could be detected. It crystallised satisfactorily also from spirit, while it gave an exact equivalent when titrated with standard alkali. Both preparations are evidently of great purity and may accordingly be used with confidence for medicinal purposes.

SYRUP CHLORIDE OF IRON (WELD'S).

(PARKE, DAVIS, AND CO., 43 & 44, HOLBORN-VIADUCT.)

Each tablespoonful of this preparation is said to be equivalent to twenty drops of the official tinctura ferri perchloridi and our analysis practically confirms this statement. It is acid to test paper, gives a blue precipitate with prussiate of potash, increased on the addition of hydrochloric acid; no colouration with sulphocyanide of potassium until similarly treated, and no precipitate with ammonium hydrate. Alkaline copper solution is rapidly reduced. These results contribute to show that the preparation consists of a carefully made combination of syrup with perchloride of iron. Although it is characterised by a sweet and inky taste, it has not that marked action on the teeth which forms a drawback to the general administration of ordinary compounds of iron. In short, it would seem to possess all the advantages of an efficient iron salt.

INVALID NOURISHING STOUT.

(J. T. USHER, HORFIELD-ROAD BREWERY, BRISTOL.)

Malt liquors when honestly prepared are not only a wholesome form of tonic and stimulating beverage, but possessing in addition distinct nutritious qualities, are often of value to invalids. When taken habitually beer tends, it is well known, to induce a state of fulness and plethora of the system and a disposition in some people to accumulate fat. The nutritive matter of beer occurs chiefly in the form of soluble carbohydrates (dextrin, malt sugar) and also of albuminates in small quantity, while salts of potassium, and especially phosphate, are a normal and abundant constituent of the ash of malt. The digestive action of beer is referable, more perhaps than anything else, to the free carbonic acid contained in it, as the activity of the diastase of the malt is destroyed in the boiling of the wort. Bottled beer, therefore, is more freely to be recommended for dietetic purposes. According to our examination the sample of stout prepared by the above firm is well brewed, ripe and of mellow full taste. Analysis showed a normal proportion of nutritious extractives with a corresponding amount of mineral matter, essentially potassium phosphate, while alcohol was present to a suitable extent. The figures actually gained were as follows:—Absolute alcohol 5·65 per cent. by weight, 7·00 per cent. by volume; extract 6·72 per cent.; mineral matter 0·52 per cent. The product compares favourably, therefore, with other brands.

NOTESCO LIQUEUR.

(NOTESCO CO., 380, OXFORD-STREET, W.)

The claims made in respect of this preparation are many, but our examination does not enable us to confirm the bulk of them. It yielded on evaporation to dryness a sticky residue, consisting practically of sugar to the extent of 26·64 per cent. When this was incinerated there remained a small quantity of mineral matter equal to 0·10 per cent. On distillation alcohol was obtained amounting to 8·50 per cent. by weight or 10·56 per cent. by volume. The liqueur possesses a sweet but hardly an attractive taste in which the presence of peppermint is suggested. Ether did not appear to extract any substance, or at least not in any important quantity. We have not succeeded in obtaining evidence further than this that would in any sense enable us to regard this preparation as "a tonic for brain and nerve &c."

EUCALYPTUS SOAP.

(CURTIS AND CO., 48, BAKER-STREET, W.)

The oil of eucalyptus globulus was readily obtained from this soap on distillation. The soap lathers very freely and contains no free alkali or excess of moisture. A good proportion of the antiseptic is ingeniously incorporated into its composition, and this fact enhances its value, of course, as a cleansing agent

CARBOLINE.

(HENRY ELLISON, JUN., CLECKHEATON, YORKS.)

A strongly alkaline tarry fluid, which separates into dark-brown oils on the addition of acid. With water it forms a slate-coloured emulsion which on agitation yields a soap-like lather. Although it contains tar oils and acids we did not succeed in getting any satisfactory evidence of the presence of true carbolic acid. This was searched for, more particularly as the preparation is described as non-poisonous, while it is also claimed to contain the "active principles of carbolic acid." The carbolates are, of course, highly poisonous compounds, and we should like more evidence therefore as to the non-poisonous character of the preparation. It is stated also to contain eucalyptus oil, which would account for the modified character of the smell evolved from it. Carboline being rapidly miscible with water affords probably a useful means of obtaining a plentiful supply of a powerful disinfectant at a moment's notice.

PREPARATIONS OF THE ROYAL PERFUMERY CO.

(NAPOLEON PRICE & CO., LIMITED, 164, ALDERSGATE-STREET.)

We have received a selection of this firm's goods, which include various soaps, medicated and for toilet use, a nursery powder and a wash specially prepared for the hair. Of the soaps we have examined the following: Velveen, a white opaque soap of especial purity, free from excess of moisture and alkali, and therefore admirably adapted for all toilet requirements; real old brown Windsor, desiccated and trebly milled, containing, according to our own tests, a minimum of moisture and perfectly free from irritants; eucalyptus and pine soap, smelling pleasantly of pine and eucalyptus and yielding both bodies on distillation, although there was nothing in the mere appearance of the soap to indicate the presence of either; carbolic soap, a delicately coloured soap containing the pure acid; improved carbolic soap, a light brown soap yielding phenols on distillation; and an improved coal-tar soap, chiefly remarkable for the excellence of its colour in spite of the character of its antiseptic constituents. The nursery toilet powder was found to be free from irritants, delicately scented and to consist mainly of rice starch reduced to a fine state of division, probably by trituration. The preparation of bay rum was apparently an alcoholic extract of bay leaves. Materials of the best quality only are evidently used in the manufacture of all these products, a precaution of especial importance where articles for the toilet are concerned.

New Inventions.

TEUFEL'S ABDOMINAL SUPPORTS &c.

WE have carefully tested the various ingenious inventions of Mr. W. J. Teufel of Stuttgart, consisting of abdominal supports, bandages, the so-called "stoop-cure" &c. It is well known that a suitable support for the abdomen in advancing pregnancy, in abdominal complaints or in corpulency is very desirable, but owing to the imperfections of most of the bandages sold it is rather difficult to get a support which is not defective in some respect; it is therefore as a rule advisable to have one properly constructed according to the special requirement of each individual case, as a bandage to fit every case requiring support is an impossibility. Mr. Teufel, recognising the truth of this statement, has divided his abdominal appliances into a series of six systems, according to the special condition; and in each series all sizes are kept in stock, so that according to the particular necessity anyone can be supplied with a support which will give the greatest amount of com-

fort and the least possible annoyance, with the most beneficial results as to the abnormal condition for which it is employed. These supports are made of various materials, as jean, white horsehair, satin, pure wool or cotton. By the addition of a specially constructed steel spring and a pad constant pressure may be made on the hypogastrium in certain uterine conditions, and a similar spring and pad are added in cases of umbilical hernia.

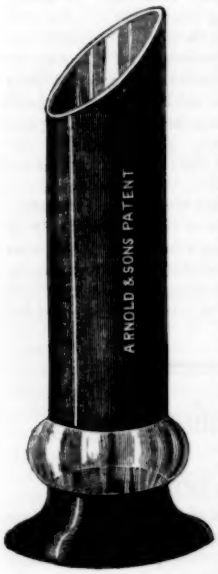
The "stoop-cure" is an appliance to counteract the habit of stooping in those who have weakness of the muscles of the back. It is worn under the dress without being observed, and consists of a flat backpiece containing springs lying parallel with the spine, and two moderately strong springs extending from the centre outwards to the shoulders, attached to the ends of which are two straps encircling the shoulders, so that the continuous action of the springs tends to draw backwards the shoulders. Such an appliance must be of considerable service when used in combination with exercises for improving the tone of the dorsal muscles.

The "menstrual safe-guard" is a neatly constructed arrangement for minimising the discomfort attending upon the monthly period.

These are supplied by the Teufel Remedial Appliances Company, 61, Moor-lane, London, E.C.

SELF-RETAINING CYLINDRICAL SPECULUM.

THE cylindrical form of vaginal speculum is the one most universally used, and Ferguson's, with mirrored surface, being cleanly, moderate in price, and affording a good view of the os and cervix, seems to be the favourite (at least with the general practitioner). The main objection to this valuable speculum is its extreme fragility, and that if left unheld after introduction it is very liable to be extruded by contraction of the vaginal walls and, if falling from the bed or couch, to be broken. The illustration represents a modification which, if the proper sized speculum be chosen, renders it self-retaining. It consists of a bulbous expansion at the outer end, which is to be introduced within the vagina; owing to its increased calibre and the sulcus around it the sphincter vaginæ muscle is enabled to hold the instrument, thus setting free both hands of the practitioner. The bulbous expansion has also another advantage—that is, the concave surface forms a trough which will catch any small quantity of caustic fluids (carbolic acid, for instance) which might otherwise find its way downwards and burn or stain the external parts or the patient's clothing. This form of speculum will be found in practice a great improvement on the older form if only for the reasons given. The makers are Messrs. Arnold and Sons, who have carried out the idea to my complete satisfaction.



Dublin. ALEXANDER DUKE.

THE INVIGORATOR CORSET.

WE have had submitted to us a specimen of "Rest's Patent Invigorator Corset." It claims to possess two important qualifications. First, that it tends to prevent tight-lacing, so common and so injurious; and, secondly, that it lends support to the shoulders by means of straps which cross over the shoulders and thus afford valuable assistance to persons who are weak in the chest, or who have a tendency to stoop. Tight-lacing and stooping generally go together—what prevents the one will tend to remedy the other. We have submitted the truth of these statements to practical test and the corsets have been found to be a great comfort. They might, however, be rendered a little softer under the arms. While affording a necessary support these corsets are made of a material so pliant that they readily adapt themselves to all the movements of the body.

HARTMANN'S ACCOUCHEMENT OUTFIT.

EVEN in these days of aseptic midwifery it is not always easy to ensure that all the necessary articles will be ready at the time of confinement, especially in the homes of young married women, who are usually ignorant of what is needed for accouchement. The Sanitary Wood Wool Company have prepared a guinea outfit to remedy this want. It consists of a box containing various requisites, especially sheets and towelettes of various sizes made of Hartmann's antiseptic absorbent wood wool and other articles necessary for the health and comfort of the lying-in woman. We have little doubt that this supplies a want often felt equally by medical attendants, nurses and patients, and from the results of our experience of the various appliances supplied by this company we can recommend this box to all intending mothers. The "outfit" can be obtained at 26, Thavies-inn, Holborn, London.

A BABY-CARRIER.

SURGEONS are but too familiar with the often life-long injuries and deformities experienced by sufferers as the result of falls during infancy from the arms of nurses. The accompanying illustration depicts a simple device intended to prevent such accidents; whilst it may be useful in lessening the fatigue of carrying infants and freeing the arms of the nurse for other incidental duties. As will be seen by the figure, the appliance consists of strong network attached to an eyeletted strap. This is thrown over the left shoulder and affixed to the end of the net, which is brought under the right arm by means of a hook. We draw attention to this invention, which is patented by Messrs. S. T. Matthews and Co., John Bright-street, Birmingham, as we believe it to be calculated to be of service to such as have the personal charge of infants and useful as a preventive of a class of calamities to which very young children are liable.

NEW HOSPITAL ON BEDMINSTER DOWNS.—The Bristol Sanitary Committee have approved of plans for a new large sanitary hospital at the Nouvers on Bedminster Downs. It will be a commodious building and provide accommodation for 100 patients and enable the medical officer of health to deal more satisfactorily with the isolation of infectious diseases. The estimated total cost of the site, buildings and drainage works will be about £30 000.

THE LANCET.

LONDON: SATURDAY, JULY 23, 1892.

IN considering the prospects of an invasion of cholera into this country it may be well to recall the past history of England as to this disease. Although cholera had long been prevalent in the valley of the Ganges, where it must be held to have its permanent centre, it did not reach this country until 1832; and seeing that this first epidemic took place before any national system for the registration of deaths had been inaugurated it is impossible now to estimate the extent of its ravages. On that occasion England became invaded by means of the sea route from the Baltic. Again, in 1849, when this country was next invaded, cholera travelled by much the same route. Having passed from Asia into Eastern Europe it crossed Russia, Prussia and Holland; it then traversed the German Ocean and first attacked our eastern coast. In 1853 a similar course of events again took place; Norway, Sweden and Denmark, with the Baltic ports of Germany, preceding our ports in so far as date of attack was concerned. On the next occasion—namely, in 1865 and 1866—a different route was followed. The line of human intercommunication between the East and Europe had undergone a change. The Cape route, with its power of extinguishing cholera as colder latitudes were reached, was giving way to a line of traffic across Egypt and by the basin of the Mediterranean; and so it came to pass that the disease first attacked certain southern towns of this country and notably Southampton. With the construction of the Suez Canal it was contended that a direct route was opened up between Calcutta and our Indian ports on the one hand and European ports on the other, and that it was by this new route that cholera would henceforth menace Europe. This view was borne out to some extent by the 1884–87 epidemic in Europe, the disease being conveyed by a French transport from Tonkin to one of the Mediterranean ports of France.

But a new danger has since then arisen for Europe. Whereas cholera formerly took a long time to travel from India to Eastern Russia across Persia or across the deserts of Turkestan, a line of railway laid down by Russia has now superseded the old trade desert routes, and this brings cholera from Bokhara, Eastern Turkestan and Northern Persia by a rapid transit right on to the Caspian Sea within a comparatively short period. Thus the danger is the greater because some of the countries traversed serve by their insanitary state to intensify the infection; whereas by the sea route to the Mediterranean there was always a prospect that any disease on board a vessel might soon die out. It is by this new railway route through Southern Turkestan that cholera has this year reached Europe. Directly the Asiatic ports of the Caspian were attacked the disease took but a day or two before it crossed that sea to Baku and Astrakan; and then, travelling in two directions, it attacked a large number of towns south of the Caucasus and proceeded to ascend the Volga, following the route of travel by steamer up that river. Thus, as the lines of human intercommunication have changed, and as they have been influenced by facilities for rapid traffic, so has cholera on several occasions altered its route to and within Europe, and no doubt can possibly remain that, for Europe at least, we must accept the doctrine that this disease follows those lines of travel, by sea, rail, or river, which convey men and merchandise from the East to the West.

In so far as risk to England is concerned the prevalence of cholera in Russia and its existence around Paris have both to be considered. In Russia the main prevalence at present lies in the two directions indicated. The disease has been and is widely prevalent south of the Caucasus, and thence it could most easily reach Western Europe from ports in the Black Sea and the Sea of Azov. The town of Azov and its vicinity are already infected and rumour says that cases have occurred in Odessa. The most dangerous trade between these districts and England is the rag trade, and when it is remembered that the effects, even of patients in cholera hospitals, have been sold, it requires no particular effort of the imagination to understand how contaminated clothing and linen would find its way to ports whence rags are exported to England. Hence it is that the Local Government Board have issued an order prohibiting the importation of rags into this country from the ports referred to. In a northerly direction the extension of cholera involves a double risk. From Astrakan the disease has spread up the Volga successively to Tzaritzin, Saratov, Samara, Kazan and into the province of Kostroma; it tends also to take a westerly direction, and danger may hence come both by its crossing the Prussian frontier or by its taking the Baltic route. The amount of cholera in Russia is already serious. Thus, to take only two days at the end of last week, the official, and we fear incomplete, returns record 1781 cases and 1300 deaths, and of the deaths 812 occurred in towns on the Volga. Still, at the same time, there is no immediate indication of a rapid extension westwards; and, besides this, there are grounds for hope that so far as the Baltic traffic is concerned our eastern ports may be able efficiently to cope with any emergency, and that the land route across Prussia, Belgium, Holland, Denmark &c., does not present the same favourable conditions to cholera diffusion which existed in 1854 on the occasion when the disease last reached this country by that route.

There are also certain hopeful conditions attaching to the outbreak around Paris. Whatever the source of the cholera in the Parisian suburbs it seems to lack that special aggressiveness which so commonly shows itself in a newly imported contagion. Paris itself has also remained practically immune. But as regards both this outbreak and the Russian epidemic there is the extremely uncertain element of season. A really hot August, with but little rainfall, might upset all forecasts; and the safest course for sanitary authorities to adopt will be a course of preparation for the worst that may be possible.

AT this time of the year, when Londoners forget all about fogs and when London is experiencing fresh breezes and a clear atmosphere, an apology would appear to be needed for bringing to remembrance one of the worst evils of our metropolitan winter. But if to be forewarned is to be forearmed, then it

is well to give due consideration to the scheme which forms the subject of an article by Mr. L. C. D'OYLE, B.A. Camb., in the current number of the *Gentleman's Magazine*. The scheme by which this author proposes to make London smokeless is by no means novel, as a reference to the columns of THE LANCET on this subject will show; but many of the arguments urged in its favour carry with them fresh force and weight. Unquestionably the employment of gaseous fuel would be a means of obviating the evil. Why do we waste fuel, practically asks Mr. D'OYLE, and deluge the metropolis with unburnt products of combustion by burning it imperfectly and extravagantly when at properly contrived places it could be so distilled that practically all its heating power could be utilised and economically supplied in mains in the form of combustible gas? This proposal endorses once more what we have already said, that whatever may be the scheme proposed, it must necessarily be colossal in proportions and one with which only drastic legislation can be expected to deal if it is to be put into practical operation. Enjoin the people to burn smokeless fuel—or to employ smoke-consuming grates—or to use only gaseous fuel, and three proposals of an equally gigantic kind and each demanding in an equal measure, in order to secure their universal adoption, the pressure of legislative force have to be faced. The proposal to use one kind of solid fuel—e.g., anthracite—may be dismissed as obviously impracticable and then there remain practically two other proposals for consideration—viz., the use of gaseous fuel and the use of solid fuel or coal. We are justified when considering these schemes in assuming that perfect combustion and smoke-consuming appliances are available. Even supposing, to take the gaseous fuel theory first, that the task of laying down miles and miles of extra gas mains and of constructing huge retort houses has been accomplished, it is next absolutely necessary to ensure that the gas-stove is perfect in its working. Nothing can be more injurious than the imperfect products of combustion arising from faulty gas-burners, and where air is admitted, as in an ordinary Bunsen burner, the arrangement by which the exact proportion of air is regulated is very liable to get out of order unless it is frequently examined. But, as Mr. D'OYLE reasonably holds, the manufacture of gas fires as an industry is still in its infancy, and very great improvements have already been effected in their construction, and still further improvements may be confidently hoped for. On the other hand, the grate which will burn coal and burn it completely without formation of smoke or other objectionable products possesses many advantages in favour of the system of burning solid fuel. Thus, while such a grate will cost no more probably than the gas stove, it will burn the only fuel which is at the present time practically available for the purpose. The adoption of this system also will not necessitate the immense undertaking entailed by the gas-heating system; extra gas mains, for example, need not be constructed and the setting up of powerful gas-making machinery will not be requisite. Coal when properly burnt gives invisible and harmless products of combustion which differ little from those produced from coal-gas, although it is true that the "purifiers" of the gas works effect a partial reduction in the amount of sulphur in the gas. The quantity of sulphuric acid, however, escaping from an ordinary gas burner is not so trifling as might be supposed, as may be determined by boiling water in a glass flask over a gas flame for a few hours. It will be found that the external surface of the flask after that time has become moist with sulphuric acid and intensely sour to the taste and that it acts strongly on blue litmus paper.

To the bulk of readers probably Mr. D'OYLE'S strongest argument in favour of gaseous fuel would appear to be summed up in the following sentences:—"A ton of coal weighs a ton; convert it into gas and it comes at once as a decimal in gravitation and could be conveyed in mains at a very small expenditure of force per mile." Again: "A series of trunk mains running direct from the coal districts to different parts of the city could supply London with fuel in this form far cheaper than railroads or ships can do it at the present time in the form of coal. It is merely a question of carbonising at the mouth of the pit instead of in London, thereby saving to a great extent the expense of carting, shifting and conveying such an enormous mass as some millions of tons annually a distance of two or three hundred miles." The claim with regard to decimating the weight of coal by converting it into gas reminds us of the old catch question: Which is heavier, a pound of feathers or a pound of lead? A ton of gas weighs, of course, as much as a ton of coal, and the force required to pump gas through hundreds of miles of mains is far greater than is generally supposed. The resistance offered by so great a length of piping would be enormous and the gas would suffer considerable compression before any effect of initial pressure would be felt at the extremities of the mains. A very simple experiment suffices to illustrate this. If a person blows through a length of leaden pipe he will find that a very considerable effort is required before the air at the other end of the pipe is forced out.

Another important point which Mr. D'OYLE appears to have overlooked is that less than one-half of the coal as it is distilled at the gasworks is converted into gas. The gas produced therefore represents only at the most one-half of the fuel value of the coal as regards carbon, as more than half of it (60 per cent.) remains in the retort in the form of coke. Now in a perfect combustion-stove this would not be the case. Practically the whole of the carbon as well as the other combustible constituents of the coal would be burnt and the total heating or calorific value of the fuel be utilised.

It is evident that the smoke abatement question is still far from having arrived at a satisfactory solution; but when the difficulty shall have been successfully combated one of the biggest achievements of the age will be accomplished. One way out of the difficulty, however, seems probable; and that is, that until some other source of power becomes available, coal or solid fuel, so long as it lasts—or it may even be liquid fuel—will after all be resorted to solely for the purpose of generating and distributing a force which may at will be resolved into either radiant or calorific energy. We refer to the immense advances recently made in electricity, which promises to provide us not only with light in our homes, but also with heat that will be available for the purposes both of cooking and warming.

THE nursing profession will, we feel assured, derive much satisfaction from the way in which their calling and their work are treated by the Lords' Committee on Metropolitan Hospitals.

The remarks on this subject occupy twelve or thirteen pages of the report—a larger space than is devoted to almost any other subject in the Blue Book. There is no doubt that "nursing" is one of the burning questions of this acute nge. It is said of a great living physician that when he gets ill he goes to bed and sends for a good nurse. The public are not yet quite so enamoured of the trained nurse. Her training has not yet reached that perfection at which it ceases to show itself. She still stands on her dignity a little too much, perhaps, to be altogether a *persona grata* in private houses. The patient is apt to resent her too routine and mechanical ways and her air of authority and command. The domestics are still more resentful. They declare that the trained nurse assumes airs and requires more waiting on than any other member of the house; that she is a sort of *imperium in imperio* and regards them as altogether inferior persons. Such prejudices have possibly a certain basis of reason, but they are yearly growing less and less as the training of nurses becomes more complete and nurses come to see that human nature, especially under conditions of sickness, requires a good deal of humouring. It cannot be doubted, too, that the results of medical treatment are greatly improved and enhanced by the ever-increasing frequency with which it is applied and carried out by intelligent and trained nurses, who are not affected in their ministrations by that feeling and fear which so often disable friends in the very climax of illness. We cannot but regret that nurses are still too infrequently employed. Partly from considerations of cost and partly from the existence of prejudices based on an exceptional or unhappy experience of nurses, they are still rather luxuries of the rich and of hospital patients than common blessings of the sick. The poor, too, of London and our large towns, as the Lords' Committee properly tell us, are receiving the benefit of good nursing in an ever-increasing degree at the hands mostly of ladies of cultivation and often of rank and wealth, who are appointed by the various Associations for District Nursing. From the evidence of several important witnesses it would appear that the demand for district nurses is on the increase; and Dr. BRIDGES intimated that it was in contemplation to allow boards of guardians throughout the country to establish them. One incidental advantage of an increase in district nursing would be that many cases, with this assistance, could be advantageously treated at home which otherwise would fill the scanty beds of our straitened hospitals. Still the great majority of patients of the middle and lower middle class have to do without the assistance of a regular nurse. The consequence is that the patient is longer in getting well and that his or her immediate friends, who act the nurse's part without the nurse's rest, often get laid up or become broken down. It is, however, in hospitals that the beneficent work of nurses is fully seen. It is to this work and to considerations for improving it that the Lords' Committee give so much space and, we may add, so much praise. What strikes an outside observer with surprise is the fascination which nursing seems to have for a large number of women, even in classes of society where pecuniary motives can have no force. This is a matter of common observation; but it is strikingly illustrated in the report. At the London Hospital the number of applicants for employment as nurses was 1600. Nurses are drawn from a well-educated class. Many are daughters of professional men, merchants, farmers and tradesmen—even the nobility and aristocracy are not unrepresented in this noble class of workers—for there is no evidence in the report of ignoble work or workers. We are all familiar with old stories of cruelty in hospital nurses; but there is no reason to think that in the hospitals of London now, with a nurse to three patients and a half, and these nurses carefully selected and closely supervised by matrons of special training and large experience, any material complaints can be made. On the contrary, testimony was forthcoming of the admirable care and attention bestowed on the patients and the spirit of self-sacrificing zeal which animated the nurses. This testimony is the more creditable as their hours are still too long and their holidays and periods of relaxation too short. The work-day on an average extends from seven in the morning with short intervals for meals to nine o'clock at night. Money only is wanted to increase the proportion of nurses to the sick, but of recent years a great advance in this direction has been made. At St. Bartholomew's it has been doubled in ten years and at the London Hospital in 1880 it was 1 to 5, whereas it is now 1 to 3¼. Still there is room for improvement, and when hospitals have succeeded in eliminating their unfit cases we shall expect to see such a flow of charity as will diminish by three or four hours the working day of nurses. It is gratifying to know that the Commissioners find no serious evidence of defective health in nurses as a rule.

Another satisfactory point established by the work of the Lords' Committee is the entire disappearance of friction and misunderstanding between the medical and nursing staffs. The Committee attribute this to the system by which the matron is made responsible for the efficiency and the discipline of the nurses and to the recognition of this system by the medical staff. The Committee magnify the position and the responsibility of the matron, and regard it as second in importance only to that of the medical staff, adopting apparently the strongly expressed opinions of Miss NIGHTINGALE. As the importance and position of nurses become increasingly recognised they will be expected to give more and more proof of their efficiency and training; and there seems every probability that their remuneration and their prospects will improve. In a nurse character is an important qualification. In this respect hospitals have a decided advantage over private nursing arrangements. In a hospital the nurse is under the immediate supervision of the matron and of the sisters. Virtues and faults are more quickly and easily discerned. In private practice it is difficult to get such a knowledge of the actual character of a given nurse. Faults have to be very pronounced before patients or families will make them the subject of note or complaint to the hospital or association from which the nurse comes, and so it may happen that a faulty nurse may have a long run of employment; but the general experience of medical men will go to confirm the impression left by the report that nurses have rapidly improved in efficiency, in faithfulness and in kindness, and generally deserve the confidence of the public.

DR. SWANN has clearly demonstrated in a paper which appears on page 194 in our present number the grave results that may arise from drinking water that has been conveyed

through leaden pipes. The solvent action on lead which is specially characteristic of certain waters—notably those of the moorland supply in Yorkshire and in Devonshire—has been very carefully studied by several chemists during the last few years. Whatever way speculation may turn as to the cause of this remarkable property, it seems fairly well established that lead-dissolving waters are generally unusually soft and contain but little mineral constituents, while waters which have not the power of dissolving lead commonly contain a maximum of chalk in solution besides other mineral matter, though perhaps little organic matter. This is illustrated in a singularly conclusive experiment made by Dr. GARRETT some time ago, who found that a sample of water obtained from Mirfield, Yorkshire, notorious for its lead-dissolving powers, acted strongly on lead, but when it was mixed with New River water (a water which does not dissolve lead at all) in the proportion of 1 part of the latter to 20 parts of the former, the action on lead was entirely prevented. The addition of "hardness" to a water was recognised as a likely remedy by the subcommittee appointed by the water committee of the corporation of Sheffield in 1890. In accordance with a resolution adopted in March of that year the water supplied to the town was continuously treated with chalk, and the medical and chemical experts expressed unanimously their satisfaction with the means successfully adopted to effect the removal of the cause of complaint and also their approval of the permanent continuance of the process. The report goes on to say that, "with a view to the security of the community using the water from liability to injury from lead contamination, the process now adopted for treating that water with carbonate of lime in the form of chalk, or such modification thereof as experience may show to be an improvement thereon, be permanently continued; and that, for the more satisfactory and economical application of the process, such apparatus be provided and fitted up as will permit the addition of the material to the water in an automatic manner."[1] The cases cited by Dr. SWANN, however, occurred at Batley in Yorkshire in June of the present year—that is, just two years after the above recommendation was issued. We do not gather whether the chalk remedy which has proved satisfactory in Sheffield has been tried at Batley. It seems odd if it has not, for on the face of it there is no reason why a remedy in one place should not prove also a remedy in another. Everyone will agree that the subject is serious enough to demand immediate precautionary measures, and that the evil is one to be once and for all avoided. At the Congress of Hygiene held in London last year, Dr. GARRETT, to whose investigations we have already referred, read an interesting paper on this subject, and the discussion to which it gave rise proved of an instructive character, bearing chiefly on the question of a means of prevention. Some chemists—and it is to be regretted that there were not more medical men present in this section—expressed their approval of the addition of chalk as a remedy, and one eminent expert, Professor LEHMANN of Berlin, quoted an instance in Germany where no cases of lead poisoning had occurred since this treatment had been adopted, the water having hitherto acted strongly on lead. Dr. PERCY FRANKLAND advocated the use of carbonate of soda, while others recommended the employment of lead pipes containing 3 per cent. of tin. Lead pipes containing 3 per cent. of tin have been employed in Dublin and in Blackburn and no cases of lead poisoning, it was stated at the Congress, have since occurred, although previously to the adoption of this precaution the waters were known for their power of dissolving lead. Dr. SWANN has incidentally referred to the use of a tin-lined iron pipe. Tin, of course, is quite proof against the solvent powers of water, and if it did not possess certain other disadvantageous properties which preclude its practical employment no better material could be found. Apart from the enormous undertaking which the substitution of tin-lined pipes for those at present in use would entail, there are combined qualities possessed by lead not enjoyed by other available metals. Lead is practically the only soft metal at hand, and pipes made of it may, as is well known, be bent or adapted to almost any shape; moreover, it is easily repaired or joined. Tin, on the contrary, is hard and brittle, and when bent is liable to crack or "kink," and where tin enters into the composition of an alloy it tends to introduce hardening qualities. It seems, therefore, that the simplest and the only practicable remedy is the one already alluded to—that is, treating the water with crushed chalk before it passes into the service pipes. Such a precautionary measure, it may be imagined, could be readily adopted by the proper authorities at the stations where the water is stored. In addition to the ordinary filter-beds of a waterworks, all that would be required would be a bed of chalk over which the water should be allowed to flow. Objections have been raised to the use of hard water for drinking purposes as likely to cause mischievous concretions in the human system; but, as a matter of fact, there is no evidence to show that such has been the case. At any rate, if hardness is regarded as objectionable, it may be got rid of by applying a simple and well-known process to the water after it has been drawn off. But of two evils the lesser should surely be chosen.

[1] THE LANCET, Aug. 1st, 1891, p. 245.

Annotations.

"Ne quid nimis."

MEDICAL MEMBERS OF PARLIAMENT.

THE following is a list of members of our profession who have been elected to the new Parliament:—Charles Cameron, M.D., LL.D., will represent the College Division of Glasgow; Donald McGregor, L.R.C.P., L.R.C.S. Edin., is elected to represent Inverness-shire; Gavin B. Clark, M.D., is returned for Caithness; Robert Farquharson, M.D., F.R.C.P.Lond., LL.D., for West Aberdeenshire; Charles K. D. Tanner, M.D., for Mid-Cork; M. A. MacDonnell, M.D., for Queen's County (Leix); J. E. Kenny, L.R.C.P., L.R.C.S.Edin., for the College Division of Dublin City; D. Ambrose, M.D., for South Louth; R. G. Price, M.R.C.S., for East Norfolk; and Sir Walter Foster, M.D., F.R.C.P.Lond., for the Ilkestone Division of Derbyshire.

THE INTERNATIONAL MEDICAL CONGRESS OF 1893.

Now that the question as to when this great gathering shall hold its sittings has been decided in favour of "the last week of September," 1893—a date at which, in what has been called the "non-business period of the year,"

Rome is a perfectly safe place of sojourn—the various sections over which the work will be distributed are proceeding vigorously with their preparations. A meeting has been held in the house of the Hon. Guido Baccelli, president of the Congress, at which a first step has been taken to constitute the committees of these sections with a view to defining their special programmes and to appointing their *personnel*. A beginning was made, appropriately enough, with the section of Sanitary Engineering, a subject of the highest importance in its bearings on State medicine, and nowhere more so than in Italy, where water-supply, drainage and the reclamation of waste malaria-breeding lands—the true *Italia irredenta*—demand immediate and effective action. The "Comitato Organizzatore della Sezione per l'Ingegneria Sanitaria" (Organising Committee for Sanitary Engineering) has thus been constituted: Signors Cadolini, Zainy, and Romanin Jacur (members of the Italian Legislature); Professors E. Gui, Gaetano Bruno, and Galileo Ferraris; the engineers Finchera, Zoppi, G. de Angeli, Giachi, Fadda, Costiglia, and Lemmi; the Commendatore Bongiovannini; the Commendatore Pagliani; the Cavaliere Bentivegna; and Dr. Maggiora. To all who have interested themselves in the great undertakings of sanitary engineering in Italy during the last two decades these names are full of significance, associated as they are with the successful solution of problems that had baffled many able, energetic and hardly less accomplished predecessors. The organising committee thus appointed is now engaged in its preparatory work, prominent in which is the selection of special subjects to be introduced for discussion at the Congress. When these subjects have been definitely chosen and announced they will be entrusted to committees charged with their special study, each of which will prepare its report embodying the result of its labours. What has been achieved in the section of Sanitary Engineering will also be soon effected in the other sections, and from time to time, as their working staff and programmes are completed, we shall keep our readers informed of the progress made. In no undertaking in which her national honour has been concerned has Italy been more in earnest than in this, and she looks to its success as fraught with additional proof that she has justly won her legitimate place among the great Powers—a place attested not only by her formidable armaments on sea and land, but by her proficiency in those sciences and arts in which she once took the lead.

A TEACHING UNIVERSITY FOR LONDON.

AS we pointed out last week, the Royal Commission, which is inquiring into this important question, has reached the most critical part of its investigations. The question of the fusion, for the purposes of scientific teaching, of some of the smaller medical schools, or of their pupils being taught science at one of the colleges or larger schools with properly-equipped scientific laboratories, is a secondary consideration; equally so are the problems of University extension teaching and of whether professors of University standing should be appointed to give lectures on subjects which a collegiate professor could not be expected to teach, or which had been made special matters of research. Already the lectures given at the Royal Colleges and at the University of London afford a precedent for such higher instruction in medicine and it would doubtless be of great value to the profession if instruction of this kind were extended. Professorships of University standing could be created for this purpose under any of the schemes, either that of the Senate of the University of London, that of the Gresham Charter, or that of the Association for Promoting a Professorial University for London. There is no practical difference between the main propositions in the earlier and later schemes propounded by the Association. A Senate which is not composed of representatives of institutions, but which is to consist of professors and Crown nominees, can never expect to gain the adhesion of the medical schools and teaching colleges in the metropolis. It is not probable that any institution of academic rank in London would be willing to be absorbed without adequate representation on the governing body. We question even if University College (medical faculty included) is willing to be absorbed and it has been definitely stated that King's College would never agree to such a process. Other institutions, such as the larger hospitals possessing able teachers in science and good laboratories, would also refuse to submit such an integral part of their educational establishment to the absolute control of a centralised body. The medical students of London require more schools of science than one and should not be subjected to a single scientific authority, and the same applies to students in arts and science. London is too large for a centralising scheme, and some arrangement for a partial fusion among the medical schools would be far more beneficial. The fact is apparent in the documents issued by members of the Association that whilst a desire for centralisation in arts and science is obvious, the necessities of the medical schools "probably require special treatment." The Association does not come to close quarters and tell us what treatment is recommended and how it proposes that this should be carried out. Mr. Stanley Boyd's statement would have more weight if the Executive Committee for Promoting a Professorial University for London would explain in detail, as has been done in the Gresham Charter and in the various schemes of the University of London, in what way it is proposed to translate an ideal scheme into a workable plan. With regard to Dr. Glover's letter, it may be pointed out that originally a university degree did not confer a licence to practise, but was simply an academic distinction, and there are many members of the profession who are of opinion that it would have been a wise course if the old plan had not been altered. As, however, every medical degree of a university is now a qualification, it is essential, we think, that any degrees granted by a new university in London should carry the same right as those of the older universities.

INCIDENTS OF THE RUSSIAN CHOLERA EPIDEMIC.

FROM all time the medical profession has been able to find among its members men distinguished no less by human fellow feeling and a high sense of personal duty than by intellectual capacity and scientific insight. We should be guilty of a widely reaching injustice were we even to allow that such men were exceptional or other than typical of their class. It is they who have earned for it that honourable position which it now enjoys in all civilised communities. It must also be admitted, nevertheless, that times of panic in the presence of uncontrollable disease, as they have exerted a depressing influence upon the mental and moral force of a population generally, have acted with a like result upon many of its healers. The plague of London acted thus as a discriminating influence. There were those who at that time bore well the crucial test of their devotion, and there were those who preferred their personal security. According to recent information members of our profession in Russia are now passing through a similar ordeal during the visitation of cholera, and details are given of a not very creditable medical exodus from the affected area. It is reassuring to learn, however, that this apparent dereliction of duty has not been entirely, if indeed it has been in any degree, spontaneous. Reports tell us of riotous disorder prevalent among the populace in Astrakhan and Saratoff, of a hospital wrecked, and of medical men and nurses shamefully maltreated. It is easy to conjecture a possible reason, which is no reason, for this extraordinary behaviour. The intractable

nature of established cholera is well known, and we may conclude that the ignorant mob have, in their impatience of the epidemic, attributed their misfortunes to the supposed incapacity of those who are labouring for their relief. This error is everywhere too common, though not everywhere equally extreme or equally disastrous. Selfishness, ignorance and ingratitude are its underlying causes. The Russian Government, it is said, has interfered to prevent the resulting exodus of practitioners, and there is therefore some ground for hope that under the control of a recognised authority we may shortly witness the signs of a clearer understanding of the position and of a more generous unity in the face of the common foe.

THE TREATMENT OF UNTRIED PRISONERS.

THE treatment of untried prisoners is a matter to which we have on more than one occasion felt constrained to draw attention, and of late we hoped that it had received at the hands of the responsible authorities the consideration due to a matter of grave importance, affecting the comfort in a great degree and in no small measure the health of a class of persons for whose condition the community is in a special sense responsible. It would seem, however, that at Durham the accommodation afforded to prisoners awaiting trial in the precincts of the court is still conspicuously deficient. Mr. Justice Day is reported to have recently observed that it was a "sad thing that there should only be one room for male prisoners, 28 ft. long, 14 ft. wide, and 11 ft. high. Prisoners ought to be detained with convenience to themselves and convenience to society. It was sad to think that twenty or twenty-five males, many of them mere boys there for the first time, some of the men old returned convicts, were all put together, notwithstanding all the care that was taken in prisons to prevent communication." These observations need no comments to enforce them, but we trust that they will have their due effect upon those who are responsible for the state of the Durham Court House and other similar places up and down the country.

SUICIDE AND SMALL-POX: A QUESTION IN NOTIFICATION.

A VERY painful case, full of lessons to the profession and the public, has been the subject of a coroner's inquiry at Saffron Walden. The patient's name was Mark Chapman, aged forty-seven, living at Sewers End, a hamlet of the town. He was removed to the infectious hospital; but to make room for him two cases of scarlet fever had to be removed. The caretaker's wife was supposed to be qualified to do all the nursing, apparently including the two infectious diseases. The sanitary inspector, having removed Chapman in an ambulance, stayed with him a little time—he had been informed that he would not keep in his bed. The patient was quiet, and seemed as if he would go to sleep. The caretaker, after returning the horse which had drawn the ambulance, went to the ward and found that the patient had escaped through a space of open window about eight inches wide. He informed the police, who soon discovered the patient lying face downwards in a pond about ten yards from the hospital and presenting a dreadful appearance of skin disease. Inspector Creasy and Police-constable Lancum tried artificial respiration for some time but without success. They were warmly thanked for their exertions by the jury. The notification history of the case is more instructive than satisfactory. A medical practitioner had attended a daughter of this man for some time and allowed her to go home with an eruption which he considered chicken-pox. The symptoms had been very mild. In a fortnight a sister developed the same symptoms and then the father, when the medical attendant's suspicions of something worse were aroused. Four days after first seeing the patient he ordered his removal to the infectious hospital, but still spoke of chicken-pox "to prevent panic." When pressed for still another case to explain the attack of the first daughter he reluctantly stated that there had been one in the grammar school. He notified Chapman's case on the Saturday. It is unnecessary to accentuate all the lessons that are contained in the above facts. As the coroner said, it is not always easy to differentiate chicken-pox and small-pox and we must make the most of this fact. Still when case follows case and an adult is attacked severely it is time to use diligence in diagnosis for the sake of the public and all concerned. We will not dwell on the sanitary prospects of a community where scarlet fever patients have to make room for small-pox without, as we understand, an interval for disinfection even if there were the materials or the nurses, which seems doubtful. We do not read a word about the revaccination of the police and other exposed persons. We trust that this crowning, if not only, protection in such circumstances has been applied with promptitude. Whenever a rash is of doubtful nature and may be small-pox all exposed persons should be revaccinated.

FINES FOR NON-NOTIFICATION.

The Times of July 20th gives particulars of charges under the Public Health Act, 1891, at the Westminster Police-court, against the Countess of Donoughmore and Dr. George Mann Carfrae. Lady Donoughmore was charged on two informations with failing to notify to the owner of a lodging-house the fact that her daughter was suffering from scarlet fever and with knowingly removing the infectious case in two cabs. Dr. Carfrae's offence was against Section 55 of the Act for failing to notify the case which he attended to Dr. Parkes, medical officer of health for Chelsea. Details were given and the facts were admitted. The defence was that her ladyship gave one of the cabmen a sovereign to have the cab disinfected and as soon as she got to her hotel she wrote to the Commissioners of Police. Dr. Carfrae said he had in the end notified; but it was shown that three days had been allowed to elapse. Mr. de Rutzen, remarking that it was of great importance that the salutary provisions of the Act should be enforced, imposed the full penalties—£10 on each of the summonses against Lady Donoughmore and 40s. in the case of Dr. Carfrae. We regret that any medical practitioner should lay himself open to so obvious a charge. Nothing would have been lost in this and in the generality of such cases by proceeding deliberately and according to law, whereas by such hasty and illegal procedure innocent people are exposed to the risk of much suffering and trouble.

VILLAGE SANITATION IN INDIA.

MISS FLORENCE NIGHTINGALE, with undiminished pluck and energy, and with that true womanly feeling which shines through all her noble deeds, is trying to bring home to the people of India the necessity of turning their serious attention to the sanitation of the villages. It was largely owing to the action of Miss Nightingale that the Indian section of last year's Congress of Hygiene and Demography assumed such grand proportions. In February, 1891, Miss Nightingale addressed a letter to the Poona Sarvajanic Sabha calling attention to the Congress, and emphasising the importance of India being thoroughly represented. In this letter the point is insisted upon that the native gentlemen have a duty to perform in interesting their wives in the important matter of home hygiene, and Miss Nightingale thoroughly recognises that a raising of the standard of domestic sanitation is the surest way to the real and permanent sanitary improvement of the people, and that the only way to procure pure water in country districts is to prevent the reckless fouling of wells, which, common in this country, is doubly common in India, where the poorer people

seem to be absolutely without any sense of decency or care in the elementary principles of the right bestowal of poisonous refuse. The appeal of Miss Nightingale and the other representations which were made by the Indian Committee, both privately and through the Secretary of State for India, were most successful and resulted not only in magnificent contributions to the Congress from many of the native Indian princes, but also in very thorough discussions on Indian sanitation and the establishment of a Tropical Section as a permanent feature of all future Congresses. At the close of the Congress an important memorandum was drawn up and signed by the chairman of the Organising Committee, the Secretary-General and many of the members of the Indian Committee, pointing out that the papers read at the Congress had revealed the deplorable sanitary condition of the rural villages, and urging that sanitary measures should be considered as a first claim upon the village cess or rate which is levied for local purposes. Miss Nightingale forwarded these and other documents to Lord Cross, the Secretary of State for India, and his lordship, in thankfully acknowledging the documents, promised to urge upon the Government of India and Bombay the importance of considering the representations which had been made. In another column will be found a review of the eleventh volume of the Transactions of the Congress which is devoted to Indian sanitation, and we understand that two hundred copies of it have been ordered by the India Office for distribution. Those who wish to understand the nature and the size of the sanitary problems connected with our great Eastern Empire should study the contents of this volume, to which officials and non-officials, native and English, have alike made important contributions.

THE MEDICAL MISSIONARY IN EAST AFRICA.

A HINDOO, jealous of the encroachments of Western civilisation on his traditional beliefs, when asked "Which of all the methods of that civilisation do you fear the most?" naturally enough evaded the question, remarking, "Why should I put weapons in the hands of an enemy?" At last he said, "We do not greatly fear the missionary schools, for we need not send our children. Nor do we fear their books, for we need not read them; nor their preaching, for we need not listen to it. But we dread the doctors and the women. The doctors are winning our hearts and the women our homes; and when our hearts and homes are won, what is there left of us?" It is, in truth, with the advent of the medical man and the trained nurse that progress has been made in the reclamation of the backward Oriental, and the annals of missionary enterprise would lose half, and more than half, of their practical interest if these two factors of their work were omitted from the record. We had recent occasion, in noticing the career of the late Rev. John Lowe, F.R.C.S.Edin., to indicate the immense leverage given to his operations by his skill in the healing art, and how the success that followed his exertions had encouraged the great medical missionary school at Edinburgh to redouble its activity and to reinforce its service by an increasingly effective contingent of medically trained workers. Nor is it less true that medicine itself is reaping the advantage of such disinterested and really philanthropic activity; and just as the discovery of America enriched our Pharmacopœia, so does the steady opening up of "Darkest Africa" and the development of its virgin resources in the vegetable and mineral kingdoms, to say nothing of its wealth in climatic situations, react for good on the means at the disposal of the profession in every branch of therapeutics. It is such considerations as these that give interest to the ceremony of the 14th inst. at Glasgow, where the memorial missionary steamer the *Henry Henderson*, built for the Church of Scotland Foreign Mission Committee, was successfully launched by its "godmother," Mrs. A. L. Bruce, daughter of the late Dr. Livingstone. A very numerous and distinguished company, in which all ranks and professions had their representatives, assisted at the ceremony, and the chief spokesman of the occasion, Professor Henry Drummond, set forth the good service which the steamer was about to enter upon. It will enable the medical missionary to conduct operations among the Makololo and other river tribes of British East Africa, plying as it will between the Chindé mouth of the Zambesi to Port Blantyre, and touching at all the intermediate stations. Mrs. A. L. Bruce added that two other steamers, to assist the further enterprise of the mission, were in contemplation, "so as to perfect the transit service from the Chindé mouth of the Zambesi, right up the river." The friendly coöperation in this direction between the different religious sects of the mother country will soon, it is gratifying to think, be an accomplished fact—a prime agent in which desirable consummation can be no other than the increasing medical element in the undertaking—an element which ignores all differences of creed, and which, more than any other force at the service of philanthropy, can say that "its field is the world."

ALBINISM IN MINES.

IT has long been known that animals living for generations in dark places lose the colour which is produced by exposure to the rays of the sun and assume the character of the so-called albino. It has, however, been supposed that the actual change into complete albinism is the result of generations of life in caverns, valleys and other spots from which the sun's rays have been cut off, and that by gradual change, extending from one generation to another, the races of the albino type have been developed. According to a series of observations recorded in the *Scientific American* this hypothesis must be given up, or at all events much modified. From the facts discovered during some mining operations along the famous "blue lead" near to Bangor, California, it appears that in this range of mines there was recently reopened a mine that had once been worked under the name of "the old Potter Mine" (now called after its owner, the Bishop Mine), but had been closed for thirty years. A young explorer entered a dry slope leading to a second shaft, the existence of which was unknown owing to a thick growth of brush and trees about it. In the darkness he was surprised to hear a noise arising from a number of flies that were buzzing around him. One of these he caught, and on examining it by the aid of his lantern he was astonished to find that it was of pure white colour, although its eyes were red. Soon afterwards he heard what was unmistakably the sound of a rattlesnake, and directing his light towards the place whence the sound proceeded he saw the snake so clearly that he was able to strike it down by throwing at it a portion of rock, and afterwards to kill it by crushing it with other portions of the same material. On taking this animal into the light it proved, like the flies, to be of the purest white. Professor Harlow Ballard of Buffalo, who was at the time near the mines making mineral explorations, procured the body of the snake and also several specimens of the "white flies." Within a week under the influence of sunlight the flies assumed the natural dark colour of the common house fly. The mine had originally been closed owing to flooding, but the water in it had subsided and air had been admitted, but no light. The flies, Professor Ballard believes, were the changed offspring of common flies imprisoned when the mine was closed. The snake, he supposes, had been carried down by a water current and had remained in the darkness long enough to undergo the loss of colour of its tissues which it so markedly exhibited. The observations above recorded open up the question whether we ought to consider the change of colour in the flies and the snake as due to the same cause as that

which produces the true albino. Buffon assumed that the primitive colour of every living thing in nature was white, or, to speak more correctly, that every living thing in nature was primitively colourless, and that development of colour was sequential to changes gradually induced by varieties of conditions to which things of life have been subjected in the course of ages. The after-suggestion of Blumenbach, that the peculiar colour of the eyes of albinos is due to the absence of the black pigment, exploded the hypothesis of Buffon, and afterwards led to the view generally accepted, that the white colour of the skin is brought about by a similar cause and that the loss of colouring substance is induced by a gradual and hereditary process of change. In this last record the change in the snake seems to have been direct, while in the case of the flies there was the rapid development of dark colour so soon as the influence of the sun was brought into play, as if the sun's ray had developed at once a pigmentary or colouring substance. The observations open up a new line of investigation for those who are devoted to the study of the influence of external forces on living structures and of adaptability to circumstances as part of the varied manifestations of vital phenomena that must be ever in progress in our universe.

ONE OF MEDICINE'S FORGOTTEN WORTHIES.

How inadequately the historian of medicine has acquitted himself of his task is impressed upon us from time to time by the publication of monographs vindicating from neglect or oblivion the good work achieved in their day and generation by inquirers, who found in the promotion of science their one pleasure and their one reward. Italians have animadverted, with something of bitterness, on the postponement of their medical pioneers to those of other countries in the apportionment of honour won in physiological and pathological fields, and they have certainly made good the claims of not a few of their compatriots to a far higher place in "the order of merit" than history has hitherto vouchsafed them. A monograph of the kind referred to has just appeared, its author being Dr. Calandruccio and its title "Agostino Bassi di Lodi, il Fondatore della Teoria Parassitaria e delle Cure Parassitiche" (Augustine Bassi of Lodi, Founder of the Parasitic Theory and of the Modes of Curing Parasitic Disease). Bassi's own countrymen had almost forgotten him; but that, as a true precursor of Cohn, of Pasteur and of Koch he was a man of powerful inductive sense and far ahead of his times, has, we think, been demonstrated by Dr. Calandruccio's work. He was born not far from Lodi in the Æmilia in 1773, matriculated at the University of Pavia, and, under that prince of physiologists, Spallanzani, devoted himself to mastering the scientific bases of medicine. An affection of the eyes caused him to make agriculture the business of his life, but without much success, blindness of a peculiarly hopeless character having supervened. But he did not abate one iota of his interest in pathological pursuits and so utilised the opportunities that his short-lived powers of vision had allowed him that, in the true scientific sense, he saw what later observers were able to verify in much more favourable circumstances, the findings of the microscope included. His agricultural occupations had interested him in silkworm disease and that peculiar phase of it known as "il calcino" engaged his earliest consideration. Having endeavoured in a multitude of ways to trace it to its cause, he tried to reproduce its charncteristic forms, on the hypothesis that it developed spontaneously. Nothing daunted by repeated failure he continued his experiments and his investigations till, after nineteen years of labour and expense, he satisfied himself that he had tracked the phenomenon to its source. He published a book on the subject and showed that "il calcino" does not spring into being spontaneously; that it is contagious; and that the principle of the contagium continues to propagate itself on the dead body of the silkworm; that the medium of contagion may be by ingrafting or appropriate aliments or by contact itself—all which he reinforced by experiments going to prove that the germs of the disease may be diffused by the atmosphere. The cause of the malady he defined to be a living vegetable organism—a fungus, in short—whose seeds, penetrating into the silkworm or into other insects, develop, increase and give origin to other plants, these thereafter assuming in their *ensemble* that efflorescence to which "il calcino" owes its name. Bassi describes in their diverse phases these "vegetabili minutissimi" and the conditions most favourable to their development, such as humidity, moderate heat and the like; and then he shows, step by step, how the parasitic fungus attacks the silkworms and how it multiplies itself with a fecundity quite marvellous. In view, moreover, of the readiness with which the disease may spread from locality to locality by means of these very minute germs he proceeds to recommend modes of disinfection, among which he instances the frequent cleansing and the isolation of the *locales* of the silk-worm industry; after which he advises recourse to alcohol, to boiling water, to lixiviated caustic potash, and such means of destroying the germs. This truly epoch-making work the blind, or all but blind, Bassi followed up by others in which actual research is more than replaced by acute reasoning in reply to his numerous critics. He admits a quasi-spontaneity of generation in "il calcino," which he explains as due to a pre-existence of germs which the living forms have stored up within themselves, and which in certain circumstances may develop and give rise to the disease. Bassi, moreover, anticipated the "cultures" of the bacteriologist, and from his special studies on "il calcino" he convinced himself that further knowledge in the same field will clear up marvellously the theory of contagions in general. In his latest works (1846–53) he demonstrates that all the phenomena presented by contagious maladies find their explanation in the "ipotesi parassitaria" (the parasitic hypothesis), and contends that not only plague, small-pox and rinderpest might be produced by "esseri parassiti vegetali o animali" (parasitic beings, vegetable or animal), but besides that wounds might be kept up by such parasites, of which gangrene may be regarded as a consequence. To combat these parasites Bassi counsels a recourse to fire, to boiling water, to acids, to sulphur, to the salts of mercury and recommends as a disinfecting implement the needle with which Italian children are inoculated with vaccine lymph. All which, it will be admitted, discloses an intellect much in advance of his time, justifying Dr. Calandruccio in his closing remarks: "Even the parasitic doctrine, like many other branches of the knowable (*scibile*), has had its cradle in our Italy. With us it has had its origin and its growth, while foreigners have only facilitated its wonderful acceptance and diffusion."

DIURETIN.

PROFESSOR DEMME, in a clinical report of the Berne Children's Hospital, mentions that he has successfully employed the so-called diuretin or salicylate of theobromine and sodium in several cases of dropsy, in which calomel and hot baths did not seem suitable and where ordinary diuretics had not proved beneficial. He finds that it may be regarded as a safe drug for children above a year old, and one that is quite free from unpleasant effects. He believes the diuretic effect is occasioned mainly by action on the renal epithelium. In scarlatinal nephritis severe dropsy coming on after the acute stage of nephritis is more easily reduced by diuretin than by any other means. In cases of mitral insufficiency, with insufficient compensation, ascites and anasarca are best combated with the help of diuretin after the compensatory disturbance has been reduced by

digitalis. As to dosage, children from two to five years of age may be ordered from eight to twenty-five grains during the day, and children of from six to ten years as much as from twenty-five to forty-five grains, in divided doses of course. The total amount for the day is generally dissolved in four ounces of water, with ten or twelve drops of brandy and forty grains of sugar. In some cases the administration was continued for some weeks without any signs of either a cumulative action or of diminished therapeutical effect being seen. In one of the cases of scarlatinal dropsy, of which details are given, the effect of diuretin was very striking. While the child was upon acetate of ammonia the urine amounted to only nine or ten ounces a day, and contained 0·15 per cent. albumen, according to Esbach's scheme of measurement, with a considerable number of granular casts and epithelium undergoing fatty degeneration. The change of treatment produced an immediate effect, the urine in the three days amounting to nearly three times the quantity previously measured and containing only half the former quantity of albumen, with very few casts, and in a week neither albumen nor casts could be found.

THE MILITARY TOURNAMENT.

IN the notice which we published of the Military Tournament at the Agricultural Hall in our issue of June 7th, we took objection to the sleeping accommodation provided for the soldiers, to the hot and vitiated atmosphere of the hall and to the want of requisite ventilation. Tents were erected in an upstairs portion of the building and it was pointed out that such a condition of affairs was scarcely in harmony with army hygiene or complimentary to those who made the arrangements. Our attention has been recently called to the alleged occurrence of typhoid fever among some of the soldiers who were present at the Agricultural Hall on that occasion. It would be interesting to learn, presuming that the statement in question is correct, whether the occurrence of the disease among these soldiers is in any way connected with the overcrowding of the men, with the bad ventilation of the building, or with the imperfect flushing of certain of the waterclosets, particularly of those which were used by the soldiers.

TYPHOID FEVER IN CHICAGO.

WE have received a copy of a pamphlet giving the results of an inquiry instituted by Mr. William T. Sedgwick, Professor of Biology of the Massachusetts Institute of Technology, Boston, and Mr. Allen Hazen, chemist in charge of the Lawrence Experiment Station, into the extraordinary prevalence and fatality of typhoid fever in Chicago. The paper was read in part before the American Statistical Association at Boston at the beginning of the present year. Assuming that there is no mistake about the figures and facts set forth in it, the amount of typhoid fever in Chicago has of late years assumed alarming proportions; and this state of things becomes of more than local consequence in view of the fact that the "World's Fair" is soon to be opened at Chicago. Unless measures be at once adopted and energetically applied to remove the causes of disease it is not to be expected that the consequences will be circumscribed within the limits of Chicago in 1893. For many years there has been a large amount of typhoid fever in that city; but in 1890 the death-rate from this disease rose suddenly and was still further augmented in 1891. During the latter year 1997 deaths from typhoid fever were reported in Chicago, giving a death-rate for this disease of 16·64 per 10,000 of population and a percentage of all deaths of 7·19. As compared with London, continental cities and those of the United States, the amount of typhoid fever in Chicago is very high. The typhoid fever death-rate per 10,000 inhabitants for 1881–90 was 6·75 in Chicago as compared with 1·80 in London; and in 1891 the typhoid fever death-rate in Chicago reached the proportion of 16·64 as compared with 1·40 per 10,000 in London. The general death-rate in Chicago from diseases other than typhoid fever is not excessive. The authors of the paper from which we are quoting suggest that if the total number of deaths recorded in Chicago from this disease in 1891—viz., 1997—be multiplied by ten an approximate estimate may be formed of the whole number of persons affected by it during the year; in other words, it is estimated that more than 1½ per cent. of the population of Chicago suffered from a disease which is classed as preventable. The cause of this lamentable state of things seems to be intimately connected with that of the water-supply. It is a case of water poisoning on a wholesale scale and of long standing, but which has grown worse of late years. The water of Lake Michigan is polluted in the vicinity of Chicago by raw sewage and occasionally by the flushing of the Chicago river. We are glad to hear that the epidemic has been declining since January of the present year. It is also only right to add by way of conclusion that earnest and strenuous exertions are being made to remedy the pollution of the Chicago water-supply by some extensive works of a sanitary-engineering kind which will no doubt prove successful.

THE BUCHANAN PRESENTATION FUND.

WE have alluded on a previous occasion to the fact that a committee, with Sir Henry Acland as chairman and Dr. Bristowe as treasurer, has been formed with the object of presenting to Sir George Buchanan, on his retirement from the post of Medical Officer of the Local Government Board, some permanent memento of the general esteem in which he is held. The conspicuous services rendered by Sir George Buchanan to public health may be said to have a world-wide reputation, and doubtless all who are interested in the cause of preventive medicine will desire to contribute their quota towards the above fund. As the committee are desirous of learning as soon as possible the amount which will be at their disposal, intending contributors should forward without delay their subscriptions to one of the secretaries—Dr. W. H. Hamer, 69, Dartmouth Park Hill, N.W.; Dr. J. C. Thresh, The Limes, Chelmsford.

THE PATHOLOGY OF ADDISON'S DISEASE.

IN respect to the phenomena of Addison's disease and their interpretation the pendulum of pathological opinion is constantly changing its position. Broadly stated, there are two main views of its pathogeny—the one which refers the symptoms to chemical changes, and the other which claims that they may all be explained by nervous disturbance. Although it is clearly wrong to single out from all its symptoms the fact of abnormal pigmentation alone, yet, as that is the most obvious and easily noted in experimental researches, most stress has been laid upon it. As regards this single feature of the affection, the explanation has been offered, on the one hand, of its being due to the retention in the blood of products which the healthy suprarenals destroy, thus establishing a sort of parallelism between this disease and myxœdema; there is, on the other hand, no inconsiderable support to the view that pigmentation is under direct nervous control. This latter view is fully stated by Professor Raymond in a recent paper,[1] based on a case of lymphadenoma associated with marked melanoderma, but where the suprarenals were unaltered; whilst the great abdominal ganglia were seriously encroached upon by chronic inflammatory changes. Professor Raymond believes that in the cutis there are chromatophorous cells which, like those in the frog and chameleon, are under direct nervous control, and that they yield an excess of pigment to the Malpighian layer under

[1] Archives de Physiologie, July, 1892.

certain conditions of nerve disorder. Pathological records afford many facts in support of this contention, and we need dwell no further upon it. Quite recently, however, some important researches upon the normal suprarenals and the urine in Addison's disease have come to the support of the chemical or humoral doctrine. Dr. F. Marino-Zuco, director of the Chemico-Pharmaceutical Institute of Genoa, has found[2] that normally these organs yield a notable quantity of neurine, which is also eliminated in appreciable amount in the urine in Addison's disease. In a communication by Drs. F. and S. Marino-Zuco, presented to the Academy of the Lincei by Professor Canazzaro, the subject is carried further. Experiments were first made to establish the physiological importance of the suprarenal capsules, showing that animals in which both these organs were removed did not survive, but when one only had been extirpated the animal survived and increased in weight. From fourteen to twenty-four days after the extirpation of one capsule circular slate-coloured patches were observed in the shaven skin, from which sprang tufts of blackish hair of rapid growth. In the next place they tested the action of neurine on animals, by injecting two to four cubic centimetres of a solution of 5 in 1000 into the peritoneal cavity. The daily injection of two cubic centimetres produced no constitutional disturbance, but after six to eight days small slate-coloured patches with thicker and darker hairs were visible on the abdomen, and on shaving other parts of the body the same slate-coloured patches were visible, increasing day by day. The investigators are pursuing their researches and believe that they have discovered a clue to the mechanism of the pathogenesis of Addison's disease.

MEANS OF ISOLATION AT BATLEY.

THE question of the provision of means of isolation for infectious diseases in the sanitary districts which make up the Dewsbury Union seems to be at a standstill. The Batley scheme of a joint hospital for a number of those authorities was practically stopped by the alternative action proposed by Dewsbury, of which nothing more seems to have been heard of late. As will be remembered Batley was recently compelled to erect a temporary hospital, but it is a building that can in no sense serve for a term of years, and it now becomes a question as to what should be done in order to meet the permanent requirements of the borough. Dr. Swann advocates the erection of a small permanent hospital for Batley purposes only, and this seems to be the most desirable procedure. It would certainly always be possible to make the hospital a joint concern with one or more of the neighbouring authorities, provided sufficient space were secured at first for further extension of buildings when that might become necessary. But one thing is certain and that is that Batley ought no longer to defer dealing with this matter in a final and efficient manner.

ALLEGED GAOL FEVER AT KILKENNY PRISON.

WE are indebted to Dr. C. E. James, senior surgeon to the Kilkenny County Infirmary and medical officer of H.M. Prison, Kilkenny, for the following [account of the cases which have occurred there. Fourteen cases of a febrile disease, with symptoms identical with those of a case recorded by Dr. Drysdale in the *Medical Press* of the 6th inst., have occurred in the prison. The general features are acute headache and pains in back and limbs; there is a very erratic range of temperature, the maximum being usually attained on the second day; nervous symptoms and delirium are marked in some cases, absent in others; where delirium occurs it is an early symptom. It bears no relation to the temperature and sometimes is present throughout. Slow pulse (40 to 60) occurs at some period in nearly all cases as does subnormal temperature, which is sometimes succeeded by a rise to its former height; there is no initial rigor, but sometimes a period of malaise of varying duration. All cases date the beginning of their illness to some time between June 13th and 26th, 1892. The cases occurred simultaneously in all parts of the prison among persons who had no communication with each other, two being the governor's children. The highest temperature recorded was 104°. All the usual symptoms of typhoid fever are absent. No rash, spots, iliac tenderness, specific diarrhœa or splenic enlargement are present. The disease runs a prolonged course, convalescence being slow and preceded by a stage of subnormal temperature. Of the fourteen cases eight are convalescent, four going on very favourably; one, who suffers from long-standing heart disease, is not yet out of danger, and one death in the case of a man of very intemperate habits and broken constitution has occurred. The drainage of the prison has recently been thoroughly overhauled and appears to be above suspicion. The water is derived from a well 150 feet deep, the last twenty of which are bored through solid rock, and is not contaminated by organic matter. The site of the prison is an elevated and healthy one. The hospital is a detached building and the most stringent measures of isolation and disinfection have been carried out through the whole course of the disease with perfect success, no fresh case having arisen. Similar cases have been observed in the town and surrounding district.

[2] Gazzetta degli Ospitali, July 9th.

JOINT DISEASE IN HÆMATOPHILIA.

THE effusion of blood into the joints of persons with hæmorrhagic diathesis is the subject of a paper in Volkmann's clinical lectures by Kœnig of Gottingen, in which he points out that the so-called bleeder's joint is due not merely to effusion of blood into the cavity, but to irritation and a peculiar form of inflammation which leads to a permanently diseased condition, with contraction, ankylosis and other deformities. Three stages of the disease may be distinguished—the hæmorrhagic, the inflammatory and the retrogressive, the last producing conditions resembling those due to tuberculosis; the tendency to form abscesses and fistulæ which exists in tuberculosis is, however, entirely absent in hæmatophilia. As regards treatment, the less that is done the better. On no account should capital operations be attempted, their result being invariably disastrous; whereas, when absolute rest is maintained, and perhaps finally a simple puncture made into the joint, a successful result may sometimes be obtained.

THE SIGNIFICANCE OF FLY BITES.

WE have now reached that point in the yearly circle at which, if at any time, might have been expected a continuance of warm weather. One sure earnest of summer heat (despite the recent rains, and it may sincerely be hoped, merely temporary chilliness of northerly winds), has long been present with us in an increase in the numbers and activity of the household fly. It may appear fussy and unphilosophical to fret over this petty trouble, but we should be more than human if our patience were proof against its constant and obtrusive attentions. The sick especially have reason to complain of the annoyance it causes them. Happily, however, they are not quite without resource. The muslin fly-curtain or head covering, the hand-switch, the fan, and a variety of other contrivances attest the practical ingenuity which has been enlisted on their behalf. Not least effectual, though as simple as it is generally unobjectionable, is the device of suspending a glutinous cord above the head of the invalid. Comfort, however, is not the sole object aimed at by treatment of the fly plague. The part played by insects in the inoculation of living germs has long been recognised, and it should be remembered that even the house fly, notwith-

standing the weakness of its mandibles, is not incapable of taking a share in this work. In THE LANCET of June 18th we showed how easily the fatal effect of the sting of a gad-fly might thus be explained. It is also a fact familiar to bee-keepers that the sting of the bee varies in severity under different conditions. May this not be attributable to the previous surroundings of the insect? We may also glean from the fact an implied lesson as to household cleanliness and as to the necessity of treating by suction, poultices, or other convenient methods even so slight a matter as an irritable fly bite.

DEATH OF MR. THOMAS COOK.

THE death of Mr. Thomas Cook of Leicester, at the ripe age of eighty-four, the originator of excursions by land and sea over the world, calls for a word of deep respect and regret. We sometimes complain of the restlessness of the age and its locomotive tendencies. And there is something just in the complaint. But Mr. Cook is not much to blame. His is the credit of having reduced the evils and the discomforts of travel and of having enormously contributed to the width of men's ideas of the world and of their fellow-creatures. The credit is the greater to a man who was born in a village and had to work at ten years of age for a penny a day.

THE STRIÆ MEDULLARES OF THE MEDULLA OBLONGATA.

IT is believed by many anatomists that the striæ medullares or striæ acusticæ of the medulla are connected with the roots of the auditory nerve. Bechtezeff disputed this view some time ago on the ground that, at all events in man, the development of the striæ medullares is much later than that of the roots of the auditory nerve. He has recently published another paper in the *Meditsinskoĭ Obozrênie*, in which he gives an account of the course of the striæ medullares, so far as he has been able to trace them anatomically. They arise in the white substance of the cerebellum, close to the flocculus, and serve as commissural fibres for the basal portions of the cerebellum, emerging from the cortex of the convolution of the flocculus. The fibres first follow the inner basal surface of the flocculus, ascending on the margin of the cerebellum which surrounds the restiform body, and then reach the lateral margin of the fourth ventricle.

THE MEDICAL OFFICERSHIP OF HEALTH FOR ISLINGTON.

THE *Islington Gazette* gives a long account of the final step in the remarkable election to this medical officership of health. We cannot congratulate all the members on the discussion. Even those who were defending what they considered the reputation of the vestry from blots on its fair fame for purity of election suffered themselves to use a rudeness of speech which disfigured their cause and detracted from the weight of their arguments. The discussion took place on a report from the Public Health Committee presenting three selected candidates and recommending that one of these should be appointed. Our readers are aware that the by-law of the vestry which forbids a recent or present member of it becoming a candidate for a paid office had been twice suspended in favour of Dr. Wynn Westcott. His name was included amongst those presented in alphabetical order by the Public Health Committee. The other names were those of Mr. Alfred Edwin Harris, medical officer of health for the County Borough of Sunderland and for the Port of Sunderland, and of Mr. A. Wellesley Harris, medical officer of health for the Borough and County of Southampton. In the first division Mr. A. E. Harris had 46 votes, Dr. Wynn Westcott 43 and Mr. Wellesley Harris 23. In the final poll between Mr. A. E. Harris and Dr. Westcott, Mr. A. E. Harris secured 47 votes and Dr. Westcott 45. So ends this important and remarkable contest. Mr. A. E. Harris is a very well known medical officer of health and his record of work in Sunderland is so full of experience and success in dealing with great epidemics and in altering a very unsatisfactory sanitary condition, that Islington may be congratulated on the appointment. We trust that Dr. Westcott's abilities will be available for the public in another sphere. His very close public relations with his fellow vestrymen, and his election by the suspension of a most wholesome by-law would not improbably have weakened his influence in Islington.

ABDOMINAL GUNSHOT WOUNDS.

DR. POROSKHIN describes in the *Russkaya Meditsina* a case of gunshot wound in which the bullet had injured the stomach and one kidney and the patient recovered. He leaves undecided the question whether the bowel had been perforated as well. The treatment was expectant. This case and many others described in medical literature have induced Dr. Poroskhin to teach that the treatment of abdominal gunshot-wounds in general should be expectant, with exception only of those cases in which there is hæmorrhage from the abdomen or when gases or fæces escape from the wound, or when there is incipient peritonitis.

LEICESTER SEWAGE OPERATIONS.

ACCORDING to a report received by the Barrow rural sanitary authority from Dr. J. Turner, their medical officer of health, the village of Thurcaston is threatened with a grave nuisance, owing to the method in which the Leicester sewage is being disposed of on the adjacent land. So grave is the nuisance that a large number of letters have been addressed to the chairman of the rural sanitary authority by aggrieved persons, and Dr. Turner has advised that a notice be immediately served on the Leicester Corporation. The rural authority, after discussing the matter privately, decided to refer the whole case to the Local Government Board and to inform both the County Council and the Leicester Corporation to that effect.

EPICUREAN PHARMACY.

IF only they were as harmless in themselves as they are worthless for any useful purpose, we might pass over unnoticed many of the æsthetic vagaries which have arisen at the prompting of a too civilised palate. Since they are not always thus impotent, however, we must be allowed a word of warning respecting them. Take, for example, the opium habit. Intended by nature and employed by man from a remote period merely as a remedial agent, we need not remind our readers how this drug has, almost within the memory of living man, usurped the place of a household luxury. When chloroform was in course of introduction it was in a somewhat similar manner adopted for a time as a kind of scientific bon-bon. It was a plaything of society, and curious tales are told of its effects in the drawing rooms of a past generation. It is asserted that some erratic epicures have more recently sought to add something to the fine native flavour of the strawberry by sprinkling it with ether. Surely the law of contrast could not be further strained or the palate of man be more grossly insulted. Better, perhaps, in taste (there is, proverbially, "no accounting for taste"), but worse by far in its unphysiological recklessness, is the practice of others, who are said to have substituted absinthe for wine at dinner. It is hardly worth our while to proclaim the self-evident fact that no process of reasoning can justify the misapplication of poisonous agents implied in each of these cases. Such experiments are doubly discreditable,

They suggest, on the one hand, a meretricious tendency to indulge in the pleasures of the palate and, on the other, a culpable indifference to the dangerous folly of playing with edged tools. These latter have their use no doubt, but not in play. Poisons have their place also, but it is in the Pharmacopœia.

THE CROTON WATER, NEW YORK.

THE water-supply of New York, the *New York Medical Journal* states, seems to be in a muddled condition, judging from observation and common report. From an æsthetic standpoint the unfiltered hydrant water is not attractive, and its bouquet, so to speak, does not inspire confidence. It is stated that chemical examination shows an increase of albuminoid ammonia, and that the microscope reveals the presence of vegetable matter. If this condition persists we may expect to hear of an increase in the number of cases of enteric fever among the many who use unfiltered and unboiled water.

TUBAL GESTATION AND OÖPHORITIS.

DR. VERTSINSKI, writing in a Russian journal on the differential diagnosis of tubal gestation and oöphoritis, calls attention to one very characteristic symptom, which had been described by Thomas as far back as 1873, had then fallen into oblivion, and was only in 1889 again thoroughly appreciated by Professor Lebedeff. This symptom is the varying size of the tumour in inflammatory conditions of the tubes and ovaries. The tumour is sometimes as large as an orange, whilst on other occasions, and often in a few days only, it is barely to be defined. This periodical variation in size is closely connected with menstruation and ovulation.

FOREIGN UNIVERSITY INTELLIGENCE.

Basle.—Drs. Siebenmann and Burckhardt have been promoted to Extraordinary Professorships.

Buda-Pesth. — The professorial Senate has proposed the following names for the chair of Surgery vacant by the death of Professor Lumniczer: *Primo loco*, Professor Réczey; *secundo loco*, Professor Navratil; *tertio loco*, Professor Dollinger.

Königsberg.—Drs. Zander and Nauwerck have been promoted to Extraordinary Professorships.

Munich. — Dr. Buchner, Professor of Pharmaceutical Chemistry and Director of the Pharmaceutical Institute, has tired, and Dr. Hilfer of Erlangen has been appointed as is successor.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following distinguished members of the medical profession abroad have been announced:—Dr. Philipp Marbreiter of Vienna, at the age of eighty-three; he was connected with the establishment of the *Wiener Medicinische Presse.*—Dr. T. G. Richardson, Professor of Surgery in New Orleans.

THE following despatch, published by *Le Temps*, completely bears out the information, diametrically opposed to that vouchsafed by the majority of our contemporaries, which we published in our issue of last week:—"Garches, July 15th, 11 A.M.—Please formally deny the news published by a newspaper of this morning's date; the health of M. Pasteur is completely re-established."

THE Royal Commission to inquire into the granting of a charter to the proposed Gresham University held a long sitting on Tuesday last in Great George-street, Westminster, Earl Cowper in the chair. The Bishop of London and the Rev. H. Wace, D.D., representing King's College, London, gave evidence in favour of the granting of a charter.

LORD SANDHURST has invited the chairmen of the boards of the general hospitals and other gentlemen interested in the subject to a conference at Spencer House, St. James's-place, which will take place at half-past three to-day (Friday), July 22nd. The meeting will be of a preliminary nature. The attention of those present will be principally directed to the possibility of the formation of a central hospital board. The subject is one of great importance and of no less difficulty, seeing that very various opinions are held by those well qualified to judge as to the best means of securing the most desirable results from the working of our noble medical charities. The proceedings, therefore, of the conference will probably occupy a somewhat lengthy period.

WE regret to announce the death of Mr. Frederick le Gros Clark, F.R.S., F.R.C.S., in his eighty-second year. He died on Tuesday at his residence, The Thorns, Sevenoaks. For many years he was surgeon at St. Thomas's Hospital and lecturer there on Surgery and Anatomy, and during the latter part of his long life he was consulting surgeon at that institution. He was the author of many works on the Anatomy and Physiology of the Nervous System, and translated in the year 1847 Dupuytren's work on "Diseases and Injuries of Bones." He was examiner for ten years to the Royal College of Surgeons, and President of the College in 1874. Mr. le Gros Clark became in 1872 a Fellow of the Royal Society.

MR. WILLIAM DALLA HUSBAND, F.R.C.S., for many years the leading surgeon in the city of York, died on July 18th in his seventy-sixth year, after a long and painful illness. Mr. Husband had filled the office of Lord Mayor of York, he was a Deputy Lieutenant for the West Riding of Yorkshire and a Justice of the Peace for York. He was consulting surgeon to the York County Hospital and had for many years been an active surgeon to the same institution. In 1868 he was appointed President of the Council of the British Medical Association. He subsequently acted as treasurer for a further period of six years.

THE colleagues of the late Sir Wm. Aitken, M.D., F.R.S., who served with him in the course of the thirty years during which he held the appointment of professor in the Army Medical School, are taking steps to erect a tablet to his memory in the chapel of the Royal Victoria Hospital at Netley.

THE thirty-fourth annual meeting of the New Sydenham Society will be held in University College, Nottingham, on Friday, July 29th, at 9.30 A.M. The business will include the consideration of the annual report, the balance sheet for 1891 and the election of officers for 1892–93.

THE appeal against the conviction in the Fulham scarlet fever case is to be heard by Sir Peter Edlin, at the Clerkenwell Sessions, to-day (Saturday), the 23rd inst. There is only one short case to be heard before it.

THE annual meeting of the Royal British Nurses' Association was held in the lecture-hall of the Royal Pavilion, Brighton, on Thursday, July 21st. Dr. Hollis, F.R.C.P., occupied the chair.

MR. DONOVAN, medical officer of health for Cork, informs us that he has traced a case of small-pox to Vosvanges, Norway, and thinks it judicious to warn English visitors of the fact.

HER MAJESTY THE QUEEN has given directions for the appointment of Dr. Francis Voley Pougnet to be a Member of the Council of Government of the Colony of Mauritius.

NEW MEASURES AGAINST THE CHOLERA IN PARIS.

(FROM OUR SPECIAL CORRESPONDENT.)

THE present cholera epidemic already gives promise of good results. It is lamentable, but nevertheless a most positive fact, that nothing is more prolific in producing sanitary reforms than the panic engendered by cholera. In Paris, but more particularly in the suburbs outside Paris, the means to prevent the spread of disease are either inefficient or most ineffectually organised. In the suburbs of Paris, where the cholera has so far found the greater number of its victims, the authorities do not know what to do and have not the means of taking effective measures even if they were sufficiently enlightened. In Paris the authorities know what to do and have the means of doing it; but these means and this authority is divided between the Prefecture of the Seine and the Prefecture of Police. In most towns there is one mayor and he is the chief and responsible functionary. In Paris there is no mayor, but both the prefects exercise the functions of mayor, though they are irresponsible and not elected. The authority being divided rivalries have arisen between the two administrations, much to the detriment of public welfare. Seeing how dangerous this might be, more especially in the event of an epidemic, Dr. Paul Brousse, Municipal Councillor, who has recently rendered good service to the cause of sanitation by initiating and helping to organise the Workmen's Congress of Hygiene, made a proposal to centralise the sanitary services. This motion was made last February; and, as there was then no fear of cholera, the matter remained in abeyance. It needed the present epidemic to infuse vitality into the proposal, and Dr. Brousse's suggestions have now in part been realised. The proposition was printed by the Paris Municipal Council, and bears the date of Feb. 23rd last. In the preamble Dr. Brousse points out that most foreign towns and several French towns possess an autonomous, competent and responsible sanitary authority, but such an authority does not exist in Paris. There are, however, in Paris many scattered services which, if united under one single direction, would constitute a good sanitary authority.

The Article 23 of the Decree of Messidor, year 8, confers upon the Prefect of Police in Paris all the powers in respect to sanitation which the mayors of other towns possess. The Decree states: "The Prefect of Police shall maintain the salubrity of the town." This seems to render the Prefect of Police master of the situation. But on the other hand the subsequent Decree of Oct. 10th, 1859, withdrew from this magistrate, among other administrative functions, the management of the sewers, the cleansing of the public streets, the emptying of cesspools, &c., and transferred these duties to the Prefecture of the Seine,

Thus we now find at the Prefecture of Police the Council of Hygiene and Salubrity which is a county institution, the medical sanitary inspection of women under the Contagious Diseases Act, the service of disinfection and the staff of disinfectors, the transporting of cases of infectious disease, the inspection of meat, mushrooms, &c., the veterinary service, the inspection of unwholesome industries. All these services come under the control of M. Besançon, chief of the Second Division at the Prefecture of Police, while the Municipal Laboratory is under the control of the Secretary-General of the Prefecture.

At the Prefecture of the Seine will be found all the services connected with hospitals and poor relief, all that relates to sanitation in schools, the service of disinfection—that is to say, the disinfecting stoves; the commission on unwholesome dwellings, the service for the sanitation of the interior of houses, the direction of public works and finally the statistical department.

It would be difficult to imagine a more confusing mixture. If bedding is sent to be disinfected in the stove, it is done by the Prefecture of the Seine; but the room from which the bedding has been taken must be disinfected by men sent by and working under the orders of the Prefecture of Police. The law affecting these two administrations requires thorough revision, but in the meanwhile Dr. Brousse proposes that under the Prefecture of the Seine a director of hygiene should be established, in whose hands the sanitary services should be concentrated. The director of hygiene should be a medical man and a distinguished hygienist and should be assisted by a municipal officer, a chemist and a clerk. To this direction should be adjoined a consultative committee of hygiene, with the Prefect of the Seine as president.

This proposal, as already mentioned, met at first with but little support. Now, however, that the cholera has broken out it has been discussed on all sides, and finally M. Lozé, the Prefect of Police, has taken the bull by the horns and has himself created a central direction for sanitary matters. The decree of the Prefecture of Police is dated July 12th. The preamble says: "It is necessary to centralise the information given by the medical corps and the various administrative services on all certified cases of contagious disease, either in Paris or the department of the Seine, and to utilise to the best advantage the ambulance waggons, the disinfecting stoves and the staff of disinfectors, so as to ensure the proper disinfection of the contaminated localities, and to coördain and control in a united manner all the prophylactic measures taken.

"DECREE.

"Article 1. A Permanent Committee of Hygiene, composed of the delegation of the Council of Hygiene and Salubrity of the Seine, shall be instituted at the Prefecture of Police. This committee shall consist of five members, the two county councillors belonging to the Council of Hygiene and three members annually appointed by that assembly.

"Article 2. Under the authority of this Permanent Committee, a service of information and of control for the disinfecting operations and the removal of the sick that come within the attributes of the Prefecture shall be created. This service shall consist of four medical inspectors, of whom two shall be permanent and shall act as aides or substitutes.

"Article 3. The Secretary General of the Prefecture of Police is charged with the execution of this decree.

"The Prefect of Police,

"H. LOZÉ."

This decree was no sooner issued than the Permanent Committee was at once constituted. It is composed of Dr. Léon Collin, Inspector-General of the Army Sanitary Service and member of the Academy of Medicine; Dr. Dujardin-Beaumetz, chief physician at the Cochin Hospital; Dr. Proust, Inspector-General of the Sanitary Services of France; Dr. Levraud, member of the Paris Municipal Council and President of the Sanitary Commission of the Municipal Council; Dr. Paul Brousse, Municipal Councillor and member of the Sanitary Commission. The doctors who are to do the actual work of superintending the disinfection &c. are Dr. Thoinot, auditor of the Consultative Committee of Hygiene of France, and Dr. Dubief, chief of the Bacteriological Laboratory at the Cochin Hospital. The assistant inspectors are Dr. Deschamps, formerly chief of a clinique at the Faculty, and Dr. Touvenaint, laureate of the Academy of Medicine.

These appointments have given widespread satisfaction, the special competency of all the persons named being well recognised. Nevertheless, though this is a step in the right direction, the conflict between the various authorities is far from settled. Both Prefectures are, however, already working in greater harmony with each other, and we are not likely to have a repetition of former scandals. Thus, for instance, the case of the lady who was assassinated in the west-end of Paris not long ago will be remembered. She might have been saved if transported at once to a hospital. The request for an ambulance was addressed to the Prefecture of Police, whose jealous clerks would not allow the ambulance of the Prefecture of the Seine to be employed and had no ambulance at their own disposal. While the squabble between the two prefectures raged no ambulance was sent and the woman died. In another instance a contagious skin affection having broken out at a police-station the Prefect of Police was compelled to send the bedding and clothes of the policemen to be disinfected in the stoves under the control of the Prefect of the Seine. To convey these contaminated articles to the stoves the Prefecture of the Seine sent the special carts employed for this purpose. But this was more than the Prefecture of Police could bear. They were obliged to use the stoves of the Prefecture of the Seine, not having any of their own, but they could procure carts of their own. Consequently the carts specially employed for carrying contaminated objects were sent empty away, and the contaminated bedding and uniforms of the police were placed in ordinary carts. The hire of these carts had to be paid for out of the

taxes, and nobody knows whether the carts were properly disinfected afterwards. Whereas, had the Prefecture of Police condescended to utilise the carts of the Prefecture of the Seine the removal of the contaminated bedding &c. could have been performed at no cost and at no risk. These incidents will suffice to illustrate the disastrous consequences that accrue from the existence of rival authorities concerned in one and the same question.

In the meanwhile the cholera continues its slow progress, though there are more cases than is generally known or admitted. Within the walls of Paris itself twenty-seven cases are officially reported between July 11th and 15th. The proportion of deaths is of course not yet known, but in previous records it has been very high. So far, however, it is in the suburbs, and not in Paris itself, that the epidemic is doing its worst. After the lesson received in 1884 it was natural to expect that the authorities would be well prepared to meet any other similar epidemics. Such is not the case. There are better means now for coping with the danger, but these are not well organised. Fortunately, the epidemic is developing itself so slowly that there has been time to make preparation; also there is the hope that it may not become general—it certainly does not seem to have taken root in Paris itself. The cases are scattered all over the town, just as might be expected if the source of contamination was outside and had been brought in accidentally. So far therefore this fact helps to strengthen the belief that the drinking of the Seine water is the principal cause, as persons may drink that water when in the outskirts of Paris for business or pleasure and then fall ill on returning to the city.

THE NECESSITY OF RE-ESTABLISHING THE CONTAGIOUS DISEASES ACT IN INDIA.

BY SURGEON-GENERAL SIR WM. MOORE, K.C.I.E., Q.H.P.

ALTHOUGH much has been done during recent years to improve the condition and social surroundings of soldiers and sailors we have not yet reached that problematical social millennium in which moral force shall overcome animal instincts. So long as human beings are constituted as they are physiological laws will be obeyed by the very great majority of the inhabitants of this world. For a young man who cannot marry, and who cannot attain to that exalted moral standard required for the suppression of natural instincts, there are only two ways of satisfaction—the one leads to disorders of body and mind, the other to the fearful dangers of venereal disease. In England, before the Contagious Diseases Act was passed and applied to certain military stations, the annual loss to the army owing to invaliding of soldiers for venereal disease amounted to three regiments, or, in other words, to the loss of the services of the whole force then serving in the United Kingdom for three weeks. In the navy the daily loss by men on the sick-list was 386, equal to the complement of an ironclad. A Committee of the House of Commons reported in 1862: "The facts are so appalling that we feel it a duty to press on Government the necessity of at once grappling" with the matter. Hence the Contagious Diseases Act in England. In 1866 the working of the Act was inquired into by a Committee of the House of Lords, who reported: "Prostitution appears to have diminished, its worst feature to have softened and its physical evils to have abated." In 1869 a Committee of the House of Commons reported: "The Contagious Diseases Acts have both directly and indirectly promoted the objects of sanitary and municipal police." In 1870 a Royal Commission stated that the ratio of primary syphilis among the military at protected stations had fallen from 120 per 1000 to 54, or more than one-half. The next Committee was composed of members of the House of Commons in 1879, who gave a table showing the amount of disease among newly registered women and those on the registers at nine military stations. The figures for the newly registered women are 40·2; for those on the register, 5·7. Yet all this, and much more that might be mentioned, did not prevent a section of society in England maintaining a continuous agitation against the Contagious Diseases Act, culminating in the passing of Mr. Stansfeld's motion in 1883, "That this House disapproves of the Contagious Diseases Act." As might be expected, the immediate result of the passing of Mr. Stansfeld's Act was diminution of the number of females examined and admitted into hospital and a large increase of syphilis in the army and navy. There was also a large increase of men arriving in India on board the troopships with primary syphilis; but the House of Commons, not satisfied with the mischief done, insisted in 1888 on the abolition of the Contagious Diseases Act in India. The result is shown in the recently published report (for 1890) on the health of the army in India. Allowing for readmissions, it would appear that 500 out of every 1000 men are suffering from venereal disease. In 1890 the total number of admissions into hospital for various forms of venereal disease was 34,152 out of a total strength of 67,823. The admissions per 1000 for the whole of India in 1890 were 504. In 1887, the last year of the working of the Contagious Diseases Act, the admissions were 361 per 1000. As from that period up to the date of the last return (1890) there was an annual increase, so doubtless there has been a similar increase to the present time. We may therefore now conclude that nearly 600 per 1000 will be admitted during the year 1892 for venereal disease. In former days ague or some other tropical malady headed the lists of admissions and invaliding. Now the first place has been either usurped or nearly approached by venereal disease. For instance, in the Bombay Army in 1890 venereal disease caused 37 per cent. of the total sickness and ague 21 per cent. Of the European Army in India during 1890 it is reported that 87 per 1000 were constantly sick, against 60 per 1000 in the ten years 1870-79, and much of this increased sickness must be attributed directly or indirectly to venereal disease.

The folly of what has been done is only equalled by the absurdity of the arguments which caused it to be done. The opponents of the Contagious Diseases Act object that, as the fear of contracting disease tends to prevent men yielding to vice, it is improper to prevent such disease; that the Contagious Diseases Act increases vice by rendering it safe; that reducing the penalties of wrongdoers is playing into the hands of transgressors. But if fear of disease prevented vice, it would not prevail so extensively as it does, in London for instance, where the Act has never been applied. None but medical men fully understand the dangers of syphilis, and what is generally known is not sufficient to act as a deterrent. Moreover, the disease of soldiers and sailors is as often as not contracted when the mind is obscured by alcohol. The opponents object that examination exerts a deteriorating influence on the women. But for confirmed prostitutes no further debasement is possible. Registration and the fact of the women coming to be examined effectually prevent what used to be common enough in Bombay at least—viz., girls being practically prisoners in brothels. All are brought to light and liberty. It is also objected that the women so dislike being examined that they will not submit unless compelled to do so. Well, when the Contagious Diseases Act was abolished in Bombay and the various examination offices closed, the women went about asking where they were to be examined. It is also asserted that the system is unjust to women, being directed against one sex for the benefit of the other. It is only directed against those of the one sex who are dangerous to themselves and men. The liberty of the subject has been made an opposing point; but no person has a right to spread a contagious disease. The opponents assert that the Act does no good. Now, although the results of the working of the rules for the prevention of venereal disease for the whole of India have not been so satisfactory as could be desired, the experience of certain stations where the rules have been carefully administered shows beyond all question that with proper management a most decided impression may be made on the prevalence of primary venereal disease. I have no time to demonstrate this, but I know from experience that if the Contagious Diseases Act were well worked the amount of local syphilis may be reduced almost to *nil*. And it cannot be doubted that the care taken of diseased females must have tended to lessen venereal disease. When, as was the case in Bombay, from sixty to eighty diseased women were in the hospital who would otherwise be disseminating syphilis, such disease *must* be lessened. Whether the Act did any good or not, I think it is now tolerably certain that its abolition has done a great deal of harm. The opponents say that attendance at hospital should be voluntary. But women of the class will not voluntarily go into hospital confinement, but continue to ply their trade—some knowingly, others unknowingly—long after they are diseased. Perhaps the most absurd argument of the opponents is that syphilis

is not the destructive malady it has been asserted to be. This impression appears to arise from the fact that, except in a few cases, syphilis is not a directly fatal disease such as cholera or bad forms of fever. It is indirectly and remotely that syphilis proves so destructive, and this is not appreciated. The opponents of the Contagious Diseases Act will not believe when they are told that eye diseases, affections of the spinal cord, of the brain, of the heart, and of the blood-vessels result from syphilis, although such affections may be otherwise named. Neither will they believe that in India much of the cachexia, liver disease and fever from which the European soldiery especially suffer, is either purely syphilitic or much aggravated by syphilis, or that when an attack of sunstroke occurs it is much more likely to end in permanent disability if there is a syphilitic taint. It is also useless telling the opponents of the Contagious Diseases Act of inherited syphilis; but any large hospital, whether in England or India, daily presents numbers of children the subjects of one or other of the forms of inherited venereal disease. The advantages which arose from the Contagious Diseases Act may be mentioned as diminution of severity of disease, prevention of disease, cure of disease, social improvement by a reduction in the number of brothels and the lessening of juvenile prostitution, and opportunities afforded to women for reformation. Having had the control of the Contagious Diseases Act in Bombay for some years when surgeon-general there, I know that such advantages did, to a greater or lesser extent, accrue from the working of the Act.

I regard the abolition of the Contagious Diseases Act in India as a display of ignorance almost unparalleled. I would ask how much longer is the health of the Anglo-Indian Army to be undermined at the instance of agitators? Let us hope the Indian Army will not be called upon for service in the field while in its present deplorable condition.

SOME MODES OF THERMAL TREATMENT AT STRATHPEFFER SPA.

BY FORTESCUE FOX, M.D.LOND.

A HIGH opinion of hot springs has been commonly held, even from the earliest times. The magnificent "Thermæ" or baths established by the Romans in Italy, Gaul and even Britain show how such waters were prized by them, first as a luxury and afterwards almost as a necessity of their civilisation. Subsequently larger and more definite claims were advanced as to the medicinal and even specific virtue of this and that bath in particular diseases—claims which have been countenanced by medical opinion even to the present day. Of late years, however, an entire change of medical doctrine has taken place, arising from a more exact knowledge of the limited power of absorption possessed by the skin. Since it has been demonstrated that the sulphates and carbonates and even the chlorides and sulphides are not absorbed from their solutions by an unbroken skin, it has not been possible to believe that baths containing one or more of these ingredients possessed on that account any specific medicinal value.[1] Their potency, which is acknowledged, is rather of a general kind, depending on the *thermal* qualities in which they agree and not on the *chemical* qualities in which they differ. It is, however, possible that this doctrine may be pushed too far, if, for example, it is denied that chemical agencies may be competent to produce effects, stimulant or sedative, on the peripheral nerve-endings and circulation independently of absorption, or that in morbid states of the skin—eczema and ulcers, e.g.—absorption of such ingredients may take place.

The internal use of the hot spring, relying as it does on the far more active absorptive power of mucous membrane, is not likely to be challenged or regarded as "indifferent"; but in respect to their external use in the form of baths, most, if not all, of the warm mineral waters must be now regarded simply as thermal agencies The continuous baths of Leuk, the warm piscines of the Pyrenean spas, the thermal baths and douches of Aix-les-Bains and of Bath in England cannot any longer be held to depend for efficacy on their minute and various mineralisation, but on the skilled and systematic application of warmth and moisture. The old theory that "natural" or telluric heat was of a different quality from artificial heat and imparted thereby a special quality to thermal waters has no foundation in ascertained fact. It should also be observed that thermal treatment, properly so-called, includes not only the use of water and watery vapour naturally or artificially heated to the proper temperature, but also local forms, such as poultices and fomentations of every kind; and in addition the application of heat without moisture, as in the Turkish bath, and locally, as the hot sand bath and the thermal hammer.

The following observations have reference to two forms of thermal treatment in use at Strathpeffer Spa, the douche bath in various shapes and the peat bath, in both of which the principal factor is the regulated application of moist heat.

1. The douche bath: This is largely used in the ordinary form of a jet or nozzle douche as an application to the affected joints in early rheumatoid arthritis and in some cases of chronic rheumatism and gout. If serious disorganisation of the joints has not already taken place, perseverance in this treatment undoubtedly assists in restoring to the parts a healthy nutrition, whether by its effect on the circulation or nervous supply it is impossible to say. It may be worth observing in this connexion that, next to the skin itself, the joints are the most superficial portions of the body and therefore the most amenable to external influences. If changes of temperature are competent, as is the case, to produce inflammatory conditions in susceptible joints, it is not unreasonable to attribute partly to the element of temperature the beneficial effects of the douche. The low-pressure douche so largely employed at Aix-les-Bains, but until lately nowhere in this country, has been lately introduced at Strathpeffer. A large volume of water, almost without pressure and of a pleasant warmth, is continuously poured over the patient's back and shoulders whilst seated and whilst, it may be, the limbs are subjected to the ordinary (high pressure) douche. It is instructive to notice that enlightened medical opinion at the French spa is now inclined to allow that the strong hot douche is too "exciting" in many cases to which the gentle douche at lower temperatures is perfectly adapted and in which indeed it acts as a general nervous sedative. The spinal douche at Strathpeffer consists of fine jets of water in a vertical series, directed at close quarters upon the spine—the patient being comfortably seated—and given at a temperature ranging from 102° to 115°. The apparatus admits of sudden alternations with cold where desirable. The whole body may meanwhile be subjected to a low pressure or rose douche at any desired heat. The spinal douche is principally used in neurasthenia, in sluggish circulation with cold extremities and particularly in cases of congestive and nervous dysmenorrhœa. It appears to act mainly through the vaso-motor system, both on the general circulation, causing warmth and flushing of the extremities, and probably in the same manner on the pelvic and abdominal organs. In numerous cases of dysmenorrhœa the catamenia are reported as being quite painless after a course of these douches. Complete rest—lying down in an adjoining room—should always follow a bath of this kind.

2. The peat bath (moor bath): This bath is composed of disintegrated peat, or moor earth, freed from extraneous matter and mixed or churned with boiling water in a special apparatus separately for each bath. The peat itself is of a rich brown colour and is taken from deposits at an elevation of 1500 to 2000 feet. It is somewhat remarkable that this form of thermal treatment—for such in the main it undoubtedly is—although so prevalent and justly famous on the continent of Europe, was not apparently employed in this country until three years ago. It is held by competent authorities to be "less exciting" than other forms—that is to say, that it produces its effect at a lower temperature than other modes of thermal treatment. It is also further distinguished from most or all other baths by its consistence (that of a thin poultice), and especially by the state of chemical activity attributed to its ingredients. Among these ingredients, organic and inorganic, when freshly prepared at a high temperature for the bath, it is believed that chemical trans-

[1] "In the estimate of baths therefore we may set aside the amount they contain of iron, lime, the sulphates of soda and magnesia, soda, iodine, bromine and arsenic; and as special baths we have only to consider those containing carbonic acid—the sulphur baths, the sool baths, the clinical effect of which is established and explained in a mechanically chemical manner; the moor baths (peat baths), in which special chemical agents are added to the general thermal effect; and sea baths."—Curative Effects of Baths and Waters: Braun, English Edition, p. 193

formations and exchanges are set going, causing a constant minute variation of temperature at the body surface. Whether or no this is a correct theory of its mode of action, the clinical facts regarding this bath remain the same. Careful observation during a long course of years at the Bohemian and other spas has established the value of the peat bath as a safe and powerful mode of thermal treatment. It is recommended more particularly in the slighter forms of spinal paralysis with motor or sensory disorder, and for promoting the absorption of exudations in the neighbourhood of joints and elsewhere.

At Strathpeffer these baths have also been used with encouraging results in chronic skin affections (eczema and psoriasis) with thickening and exudation; in simple inactivity of the skin, with a chaonically dry and sometimes cold surface; in sluggish circulation and cold extremities (a condition frequently combined with inactive skin), and in painful affections of muscles and nerves. In cases of depressed peripheral circulation patients will sometimes report, after even a single peat bath, that they feel a glow of warmth over the body to which they have been unaccustomed for years. Again, in neurotic subjects suffering from what is frequently termed "spinal irritation," with pains in the limbs, sensations of heat along the spine, posterior headache and other distresses, the peat bath is distinctly more beneficial than other forms of thermal treatment. It relieves the pains and other morbid sensations, promotes free perspiration and induces a state of calm and disposition to sleep strikingly in contrast with the excitement and restlessness sometimes caused in the same subjects by the hot douche.

In conclusion, it may be observed that the modes of treatment here described are not the only ones for which there is at present no full and sufficient explanation forthcoming. Many remedies of the greatest value have been and still are used more or less empirically, resting on experience rather than on scientific hypothesis; and among these thermal agencies, though a more complete knowledge of their *modus operandi* is to be earnestly desired, still hold the place they have held for ages in the successful treatment of many chronic ailments.

HOSPITAL ACCOUNTS.

[SECOND ARTICLE.]

IN our article last week upon this subject we passed in review one part of the schedule which has been prepared for use by the hospitals and showed how the statement of income might be rendered more perspicuous than it is in this form. The statement of expenditure we then reserved for subsequent criticism and to that we now turn. The principles by which we propose to test it have been already stated, but it may be convenient to restate them here. They are four—that is to say, the statement must clearly show (1) how much is annually expended on the work of the institution; (2) how that expenditure is distributed among the various departments; (3) what is the amount of the income available to meet the expenditure; and (4) from what sources that income is derived. The third and fourth of these heads have been already considered in connexion with the statement of income. The first two have now to be applied to the other (expenditure) side of the account. As to the first no difficulty arises. The importance of showing the total amount of the expenditure has been fully appreciated not only by the committee which prepared the form now under discussion, but by most other people who have taken in hand the preparation of a financial statement and hence the aggregate expenditure can very commonly be found in any of these accounts and would always be shown by a statement prepared upon the lines of the Mansion House form. The second rule is recognised to some extent, and it is upon this point that discussion must be chiefly directed. The Accounts Committee has prescribed a subdivision of the expenditure into two large groups of items: the one is called "ordinary expenditure," and covers all that is laid out upon managing the institution and maintaining its work; the other, "extraordinary" expenditure, and includes such items as building for the purpose of extension, the making of permanent improvements and the acquisition of investments for capital. To put it in a word, the "ordinary expenditure" represents expenditure pure and simple; that is to say, expenditure of the resources of the institution, whereas "extraordinary expenditure" is expenditure only in name and represents no expenditure of resources, but on the contrary their accumulation. Such a distinction is indispensable to the production of a statement that shall not be absolutely misleading. By summing together without distinction the money expended and the money invested, it is possible to make the most thriving institution appear to be involved in financial difficulties. Attention has been recently and publicly called to instances of this particular kind of misrepresentation—instances in which hospitals that have added largely to their investments in a given year have published statements in which the expenditure is shown to be in excess of income. The general adoption of the Council's form would correct this fault, and although the desire to make an effective appeal to the charitable public may in some instances militate against the ready acceptance of a form of statement which is transparently clear, we are satisfied that upon the whole the hospitals would gain more from increased public interest and confidence than they would lose from the moderation of their demands.

This, however, is only a first step towards the elucidation of the expenditure account. A second step is taken by the subdivision of ordinary expenditure under the two heads of maintenance and administration, a division which corresponds roughly to what may be described as the expenditure upon the effective and the non-effective forces of the institution respectively. Thus "maintenance" covers the expenditure on food, drugs, rent, taxes and medical and nursing and domestic services; whereas administration covers the cost of the secretary's and collector's offices, advertisements and such-like outlay which does not directly supply the patients' needs. Here there is a manifest intention to apply a criterion of economy to the accounts of the institution, and the only question which can arise is whether the criterion is a satisfactory one, having regard to all the circumstances of the case. Our reason for thinking it unsatisfactory is that expenditure on "administration" as above defined, though one of those branches of outlay which are most apt to grow to excess, is not by any means the only one out of which extravagance can arise. It is as possible to have excessive expenditure upon the professional staff as upon the secretarial and equally possible again to pay too much for house-rent or provisions. This is to some extent recognised in the form under discussion, inasmuch as the maintenance charges are divided up under various heads representing various departments of hospital work. But at this point the scheme breaks down altogether and the distribution of the items, instead of elucidating, serves only to confuse the statement. Thus we have the full amount of the butcher's bill carried to an entry under the subhead of "Provisions," but no intimation is conveyed in what proportions the supply of butcher's meat is appropriated to the patients and to the officers by way of allowances. It may be better economy to pay liberal salaries without allowances than small salaries with them; and a statement which affords no indication of the extent to which professional services are requited by payment in kind supplies absolutely no basis of comparison between different institutions. It seems to us that the object of this final subdivision should be that of securing a clear statement of the whole cost of every several department of hospital work, whether that cost is defrayed in money or in money's worth, and that a statement of the expenditure upon salaries which is not supplemented by a corresponding statement as to the expenditure upon allowances is absolutely meaningless. This is a point which cannot be too strongly emphasised and we are therefore glad to be able to quote in this connexion the opinion of the House of Lords' Committee. They confine their observation, it is true, to the one department—namely, the out-patient department—which they consider the most important of all for this purpose and with reference to it they say (at page 97): "In the evidence before the Committee mention was made of the difficulty of ascertaining the cost of an out-patient, without which calculation any estimate of the cost 'per bed' is unreliable. The Committee do not think the difficulties insurmountable." They then proceed to sketch a plan for effecting an analysis of the accounts with this object, which, extended to other departments, would entirely accomplish the end that we have advocated. We think, therefore, that there is every reason to believe that a perfectly satisfactory statement of hospital expenditure is possible, and we hope that when a form of account is ultimately adopted this important point will receive adequate consideration.

THE BRUSSELS OBSTETRICAL CONGRESS.

THE programme of the proceedings of this Congress was issued at the end of last week by the president, Professor Kufferath, and the general secretary, Dr. Jacobs. The sittings of the Congress will commence at the Palais des Académies on Tuesday, Sept. 13th, at 9 P.M. The Belgian Gynæcological and Obstetrical Society will give a concert in honour of the members of the Congress on the Wednesday at 2 P.M. The Congress will be declared open in the presence of King Leopold II. The Exhibition will include an international display of instruments and apparatus at the Palais des Académies, and a special exhibition of specimens and instruments, contributed by the Belgian Universities, and held at the Brussels Maternité. On the Thursday, Friday, and Saturday the ordinary sittings will be held, general communications being read between ten and twelve, whilst special subjects chosen for discussion will be brought forward in the afternoon. The order of these subjects is as follows:—Thursday, Sept. 5th, Pelvic Suppuration, introduced by Dr. Segond of Paris; Friday, Sept. 16th, Extra-uterine Pregnancy, by Dr. Martin of Berlin; and Saturday, Sept. 17th, Placenta Prævia, by Dr. Berry Hart; on Thursday, at 9 P.M., the Minister of Public Works will receive the members of Congress at his official residence; on Friday, at 7 P.M., there will be a special performance at the Opera; and on Saturday evening the Belgian Gynæcological and Obstetrical Society will give a banquet. Subscriptions may be sent by post-office order to the general secretary, Dr. Jacobs, 12, Rue des Petits Carmes, Brussels. After Sept. 12th they may be paid at the secretary's office. Further information will be supplied on application to the general secretary at the above address.

MARITIME HYGIENE IN ITALY.

AN Italian correspondent writes: "I have been favoured with the following 'Ordinanza' from the Ministry of the Interior, just issued in view of the anticipated importation of cholera from the Black Sea stations. It is based on the law enacted on Dec. 22nd, 1888 (No. 5849, Series 3A), on sanitary precautions for the safeguard of the public health, and it decrees: (1) That all ships proceeding from the Black Sea ports shall be subjected to a rigorous medical examination; (2) that from these ships shall be prohibited the unloading of goods, whether linen or woollen, for personal or domestic use, which shall not have been thoroughly cleansed or previously disinfected; (3) that the harbour officials, on finding on shipboard linen or woollen goods in an uncleanly state, shall ensure before their debarkation that they be properly disinfected either by the steam apparatus provided *ad hoc*, or, if the vessel possesses no such apparatus, that they be kept for at least ten minutes immersed in water either in the boiling state or holding in solution corrosive sublimate in the proportion of 2 per 1000, with the addition of chloric acid in the proportion of 5 per 1000; (4) that the sanitary officers charged with shipboard inspections shall judge in special cases whether or not the wearing apparel of the crew or the passengers shall be subjected to the disinfecting process above mentioned; (5) that the vessels on which cases of cholera shall have been proved to have occurred during their passage or on which suspected cases of the malady shall have presented themselves, on arrival in port shall be sent to the nearest sanitary station of the island of Asinara or of the island of Poveglia, there to undergo those measures *in contumaciam* which from time to time shall be determined by the Minister of the Interior. The ships ascertained to come under the above categories shall have to make directly for the said sanitary stations before touching at any other port. The prefects of the maritime provinces of the kingdom, the dockyard authorities and the harbour officials are charged with the execution of these precautionary measures. The 'Ordinanza,' specially framed, it will be seen, to meet the danger of imported cholera from the Russian and Ottoman shores of the Black Sea, is signed by the head of the Italian Home Office (*Il Ministro dell' Interno*) his Excellency Signor Giolitti."

METROPOLITAN HOSPITAL SUNDAY FUND.

THE following is a continued list of the contributions received at the Mansion House up to Thursday, the 21st inst., in aid of the Metropolitan Hospital Sunday Fund. The amount received up to the present is £37,500.

	£	s.	d.
St. Stephen's, Gloucester-road (Rev. J. P. Waldo)	218	13	6
St. Peter's, Bayswater (Rev. C. N. Moore)	109	11	8
Corporation of City of London (a further)	105	0	0
"J. C." (a further)	100	0	0
Blackheath Congregational Church (Rev. Chas. Wilson, M.A.)	100	15	5
St. Stephen's (with St. Thomas's), Paddington (Rev. Harvey Brooks)	100	11	11
St. John's, Notting-hill (Rev. Prebendary R. Thornton), D.D.	74	12	2
South Kensington Presbyterian Church (Rev. R. Milner) ..	21	0	0
St. John the Baptist, Leytonstone (Rev. W. J. Bettison) ..	20	3	4
St. Paul's, Lorrimore-square, and Missions (Rev. C. H. Simpkinson)	20	4	9
J. J. Randolph, Esq. (a further)	20	0	0
St. Agnes', Kennington Park (Rev. T. B. Dover)	25	3	1
St. Mary and St. John the Divine, Balham (Rev. Thos. Bates)	55	8	11
St. John's, Upper Lewisham-road (Rev. E. J. Hone) ..	47	6	2
All Saints, and Holy Trinity, Wandsworth (Rev. Wm. Reed)	61	0	0
Holy Trinity, Westminster (Rev. G. Miller)	20	0	0
East Finchley Congregational Church (Rev. H. Barron) ..	26	8	1
Streatham-hill Congregational Church (Rev. J. P. Gledstone)	40	1	5
St. James's, Norland-square (Rev. A. Williamson)	30	0	0
Christ Church and St. Barnabas, North Finchley (Rev. H. Stephens)	28	16	11
Harecourt Chapel, Canonbury (Rev. H Simon)	20	0	0
All Saints, Putney (Hon. and Rev. R. Henley)	32	0	0
Islington Parish Church (Rev. W. H. Barlow, B.D.)	20	11	6
Chiswick Parish Church (Rev. L. W. T. Dale)	28	15	0
Wilmington (Kent) Parish Church (Rev. R. Jamblin) ..	22	2	6
St. James', Hatcham (Rev. W. H. Stone)	41	12	0
St. John the Divine, Kennington (Rev. C. E. Brooke) ..	66	11	1

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Hull and Goole Port District.—Dr. J. W. Mason's report on this port is an eminently satisfactory one, for it shows that a careful inspection of vessels is made and that when sanitary defects are discovered they are dealt with and amended. In all, 4566 vessels were thus inspected last year, and out of 169 defects 155 have already been carried out. The wholesomeness of drinking water on board receives special consideration and the emptying and cleansing of tanks are insisted on. Cases of infectious diseases are promptly removed to hospital and where necessary the crew &c. are subjected to strict medical examination. This port has close relations with the Baltic and at the present season, with advancing cholera in Russia, it is a matter of satisfaction to know that an efficient port sanitary administration is carried on under Dr. Mason's supervision.

Hexham Rural Sanitary District.—During the past year the death-rate for this rural district was 18·5 per 1000. Notification has been in force since 1889, but, as Mr. Boustead points out, the means of isolating first attacks of infectious diseases is a necessary complement to learning of the existence of such cases. The needed hospital has, however, not yet been provided. The midden-privy system is a source of grave nuisance, and it is evidently of the utmost importance that it should be amended or abolished. From the detailed description of individual localities and villages which is given in the report, it is clear that full acquaintance with all insanitary conditions has been acquired and is maintained.

Hatfield Rural District.—Dr. Lovell Drage gives the general death-rate for 1891 as 13 per 1000. The subjects of epidemic influenza and diphtheria receive considerable attention in the report, certain current knowledge as to the etiology and means of diffusion of these two diseases being set out in a form that can be apprehended by the intelligent non-technical reader. As regards the latter disease, it is stated that at one and the same time diphtheria, scarlet fever, follicular tonsillitis and simple sore-throat all prevailed in one limited and defined area. Hatfield itself possesses a good water-supply and new sewerage works have been commenced. But similar works, notably as to water, are needed elsewhere and the

question of by-laws remains in an unsettled condition. Much has fortunately been done in recent years to improve dwelling accommodation.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6471 births and 3491 deaths were registered during the week ending July 16th. The annual rate of mortality in these towns, which had been 17·1 per 1000 in each of the preceding two weeks, rose last week to 17·9. In London the rate was 18·9 per 1000, while it averaged 17·1 in the thirty-two large provincial towns. The lowest rates in these towns were 9·8 in Croydon and in Birkenhead, 10·7 in Brighton, 13·5 in Hull, and 13·6 in Oldham; the highest rates were 19·8 in Halifax, 20·0 in Salford, 21·3 in Blackburn, 21·5 in Liverpool, and 22·6 in West Ham. The 3491 deaths included 598 which were referred to the principal zymotic diseases, against numbers increasing from 477 to 503 in the preceding three weeks; of these, 260 resulted from diarrhœa, 131 from measles, 80 from whooping-cough, 60 from diphtheria, 44 from scarlet fever, 23 from "fever" (principally enteric), and not one from small-pox. No fatal case of any of these diseases was recorded last week in Brighton; in the other towns they caused the lowest death-rates in Hull, Leeds, Norwich and Derby, and the highest rates in London, Sunderland, Leicester and West Ham. The greatest mortality from measles occurred in Huddersfield, West Ham, Oldham, Halifax and Sunderland; from scarlet fever in Swansea; from whooping-cough in Huddersfield, Wolverhampton, Bolton and Burnley; and from diarrhœa in West Ham, Bristol, Preston, London and Leicester. The mortality from "fever" showed no marked excess in any of the large towns. The 60 deaths from diphtheria included 43 in London, 4 in West Ham, and 3 in Birmingham. No fatal case of small-pox was registered either in London or in any of the thirty-two large provincial towns; 17 cases of this disease were under treatment in the Metropolitan Asylum Hospitals and 4 in the Highgate Small-pox Hospital on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2488, against numbers increasing from 1226 to 2372 on the preceding sixteen Saturdays; 323 new cases were admitted during the week, against 331 and 301 in the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had been 185 and 170 in the preceding two weeks, further declined to 168 last week, and were 31 below the corrected average. The causes of 60, or 1·7 per cent., of the deaths in the thirty-three towns were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Cardiff, Nottingham, Oldham, Bradford, Newcastle-upon-Tyne and in ten other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham and Leicester.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had declined in the preceding three weeks from 19·3 to 17·6 per 1000, further fell to 17·2 during the week ending July 16th, and was 0·7 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 13·2 in Greenock and 14·1 in Edinburgh to 18·3 in Glasgow and 20·1 in Leith. The 480 deaths in these towns included 18 which were referred to whooping-cough, 16 to diarrhœa, 13 to measles, 7 to diphtheria, 6 to scarlet fever, 2 to "fever," and not one to small-pox. In all, 62 deaths resulted from these principal zymotic diseases, against 83 and 62 in the preceding two weeks. These 62 deaths were equal to an annual rate of 2·2 per 1000, which was 0·9 below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had declined from 27 to 21 in the preceding three weeks, further fell to 18 last week, of which 9 occurred in Glasgow, 3 in Dundee, and 2 each in Edinburgh and Aberdeen. The 16 deaths referred to diarrhœa showed a marked increase upon recent weekly numbers and included 7 in Glasgow and 3 in Dundee. The fatal cases of measles, which had declined from 35 to 22 in the preceding three weeks, further fell to 13 last week, of which 9 occurred in Glasgow and 4 in Edinburgh. The 7 deaths referred to diphtheria exceeded by 4 the number in the previous week and included 4 in Glasgow and 2 in Aberdeen. The 2 fatal cases of "fever" were both recorded in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 89 and 71 in the preceding two weeks, further declined to 65 last week, and were 8 below the number in the corresponding week of last year. The causes of 42, or nearly 9 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had declined from 31·6 to 21·8 per 1000 in the preceding four weeks, rose again to 24·2 during the week ending July 16th. During the thirteen weeks of last quarter the death-rate in the city averaged 31·3 per 1000, against 18·9 in London and 17·8 in Edinburgh. The 162 deaths in Dublin during the week under notice showed an increase of 16 upon the number in the preceding week, and included 9 which were referred to measles, 4 to "fever," and not one either to small-pox, scarlet fever, diphtheria, whooping-cough, or diarrhœa. In all, 13 deaths resulted from these principal zymotic diseases, equal to an annual rate of 1·9 per 1000, the zymotic death-rate during the same period being 4·2 in London and 2·9 in Edinburgh. The fatal cases of measles, which had declined from 27 to 13 in the preceding four weeks, further fell to 9 last week. The deaths referred to "fever," which had been 1 in each of the previous two weeks, increased to 4 last week and exceeded the number in any recent week. The 162 deaths registered in Dublin last week included 31 of infants under one year of age and 28 of persons aged upwards of sixty years; the deaths of infants showed a slight further increase upon those recorded in recent weeks; while those of elderly persons showed a decline. Three inquest cases and 4 deaths from violence were registered; and 37, or more than 20 per cent., of the deaths occurred in public institutions. The causes of 13, or 8 per cent., of the deaths in the city last week were not certified.

CALCUTTA.

The total number of deaths registered in the town of Calcutta during the week ending May 21st was 219, against 270 and 240 in the preceding two weeks. There were 39 deaths from cholera, against 55 and 59 in the preceding two weeks; no deaths from small-pox. The general death-rate of the week was 24·4 per 1000 per annum, against 20·4, the mean of the last five years. In the amalgamated area of suburbs the total number of deaths registered during the same week was 138. There were 44 deaths from cholera, against 37 in the preceding week; no deaths from small-pox. The general death-rate of the week was 33·4 per 1000 per annum, against 28·1, the mean of the last three years. The general death-rate of the combined area was equal to 27·3 per 1000.

THE SERVICES.

MEDICAL STAFF MATTERS.

THERE were several recommendations made by Lord Camperdown's Committee which we advocated at the time and to which attention may be fitly called again now when a change of Government is probably soon about to take place. The regulation by which extension of the time of a foreign service tour from five to six years was made applicable to all medical officers seems to us a hardship, nor does it appear to be an essential or economical arrangement. There are always a certain number of medical officers in India and elsewhere who are desirous of extending their periods of service in the commands in which they may happen to be serving at the time. It suits their health and their convenience; they like the climate and their work; and it is in the interest of the service that they should, as a rule, be allowed to stay on when desirous of doing so. The pay of medical officers serving in India also requires some re-adjustment, especially in the brigade-surgeon rank. The privilege of exchange should be extended to medical officers, with the approval of the Director-General, as to other branches of the service. It should not be difficult to regulate the system of exchange so as to guard it against abuse and

protect the service from financial loss. We advocated these improvements years ago and we have not seen any valid reason for changing our opinions since.

MOVEMENTS OF THE MEDICAL STAFF.

Surgeon-Colonel Patterson has left Hong Kong for Japan, on leave. Surgeon-Captain E. G. Browne has been granted sick leave to England, from India. Surgeon-Captain Long has arrived at Sierra Leone, for duty. Surgeon-Captain Ritchie has arrived home, on leave from Malta. Surgeon-Lieutenant Withers has been transferred to Dublin, for duty. Surgeon-Major Dorman has arrived home on leave, from Halifax. Surgeon-Major Young has reported himself for duty, at Parkhurst. Surgeon-Captain Woods has joined at Weymouth. Surgeon-Captain Blackwell has left Woolwich, on leave. Surgeon-Captain Wiles and Surgeon-Lieutenant Hughes have joined at Chester and Preston respectively from out-station duty. Surgeon-Lieutenant-Colonel Reynolds, V.C., and Brigade-Surgeon-Lieutenant-Colonel Johnson have proceeded on leave from Shorncliffe. Surgeon-Major Beamish has obtained leave from Dublin, and Surgeon-Captains Sandiford, Power and Browning have arrived at Cork. Surgeon-Major Gormley has proceeded to Limerick, from the Curragh, and Surgeon-Major O'Sullivan has joined at the Curragh. Surgeon-Lieutenant-Colonel Rooney has been promoted to the rank of Brigade-Surgeon-Lieutenant-Colonel, vice O'Farrell, retired from June 16th, and Surgeon-Captains J. G. S. Lewis and J. L. Hall have been promoted to the rank of Surgeon-Majors, from July 6th.

In consequence of the large number of officers of the higher ranks now in India, the reliefs for the coming season will, we understand, be chiefly supplied from Surgeon-Captains and Surgeon-Lieutenants. This will be greatly appreciated by the Surgeon-Majors now at home, for hitherto foreign service has pressed very heavily upon that rank, whose turn has come round much faster than that of the juniors.

SIR WILLIAM AITKEN'S SUCCESSOR.

We learn that the Professorship of Pathology at the Army Medical School has been conferred upon a civilian—Mr. A. E. Wright, M.B., B.Ch. Dublin., late Demonstrator of Pathology at the University of Cambridge. Opinions may differ as to whether the vacant chair of Pathology should, despite the difficulties on which we have already commented, have been filled by an army medical officer, whether of the British or Indian medical service, but there can be no difference of opinion as to Dr. Wright's eminent fitness for the post which he has accepted.

SURGEON-GENERAL HASSARD, C.B.

We record with much regret the death of Surgeon-General H. B. Hassard, C.B. This officer, who retired from the service in 1888, after having filled the post of principal medical officer in Ireland, had seen much service during his long and varied experience in the Medical Department. He was in receipt of a good-service pension at the time of his death. Surgeon-General Hassard served a good deal in India and had held a responsible post in the Afghan Campaign. The record of his war services embraces the following:—The Kaffir war, 1851–53; horse shot in Waterkloof (medal); the Hazara campaign of 1868, including the expedition in the Black Mountain (medal and clasp); the Afghan war of 1879–80, with the Cabul Field Force (medal); he was awarded a C.B. for his services in the last-named expedition and subsequently became the Principal Medical Officer of the Sirrhind Division, and on his promotion took up the appointment of head of the Medical Service in Ireland. Surgeon-General Hassard was considered a good administrator; he was prompt and decided, possessed excellent business qualifications and was, we believe, deservedly liked and respected by those who knew him or served under him.

SURGEON-LIEUTENANT-COLONEL D. C. G. BOURNS, M.S.

This medical officer, who died at Oxted, Surrey, on the 9th inst., entered the army in 1864. He served in the Zulu war of 1879 (medal and clasp), in the Egyptian campaign of 1882, and was present at Tel-el-Kebir (medal, clasp and Khedive's star). On his return from Egypt he served in England some time and then went to India for a while. In September, 1890, he retired on half-pay. Of late years he had been occasionally out of health, probably attributable to malarial diseases contracted abroad. He was only forty-five years of age at the time of his death.

SURGEON-MAJOR F. H. MURPHY, M.S.

We much regret to announce the death of this medical officer at Cork on the 24th ult. He became a surgeon in 1877 and a surgeon-major of the Army Medical Staff in 1889. He was the medical officer of the Royal Arsenal, Woolwich and was only thirty-seven years of age at the time of his death.

EUROPEAN TROOPS IN INDIA.

There can be no doubt that much more care is taken of the British soldier in India than was formerly the case. Among other sanitary recommendations the highest medical authorities went on year after year urging the importance of providing accommodation for European troops in the hills. According to the latest information from India we are glad to recognise that a remarkable change has taken place in this respect. Out of some 42,000 men in the Bengal Presidency 14,219 British soldiers, 611 women and 1392 children have been accommodated at hill stations during this hot weather. The *Pioneer* says this is double the number of twenty years ago. Enteric fever is *the* disease from which our soldiers suffer in India and unhappily those at hill stations are not exempt from it, although the general health of the troops is greatly benefited by residence in a hill climate.

THE RUPEE AND MEDICAL OFFICERS.

The rate of the exchange—which seems ever falling—and the belief that the value of the rupee has not yet reached its downward limit are becoming a very serious matter for officers and others serving in India. Instead of the proposed bi-metallism being adopted it may be definitely set aside, in which case the value of the rupee will probably be still further depreciated. It is all very well to say that the rupee still represents in India about the same value that it did, but officers serving in that country do not and cannot spend their pay there; a large number of them are married and have families to educate and support at home. To such as have to send money from India to this country the loss involved by the rate of exchange comes to a large sum in the course of the year, and Indian pay and allowances represent a nominal value which is very different indeed from the real one. Time was when service in India brought with it good salaries to cover home remittances and compensate for the risk to health and separation from family, but that time has passed away, apparently never to return. The Pagoda-tree has ceased to yield a plentiful crop; little fruit falls after much shaking; meanwhile, discontent increases among Indian officials of all sorts and the Government of India is at its wits' end to know what to do.

THE PARKES MEMORIAL PRIZE.

The subject for the next prize is the following: "Malarial Fevers; their Causation and Prevention." (To be illustrated, as far as practicable, from the personal experience of the writer.) Essays are to be sent in to the Secretary of the Parkes Memorial Fund, Royal Victoria Hospital, Netley, on or before Dec. 31st, 1894. Each essay to have a motto and to be accompanied with a sealed envelope bearing the same motto and containing the name of the competitor. This prize, consisting of 75 guineas and a gold medal, is open for competition to the medical officers of the Army, Navy, and Indian Services of executive rank on full pay, with the exception of the assistant professors of the Army Medical School during their term of office.

ARMY MEDICAL DEPARTMENT.

Surgeon-Lieutenant-Colonel James P. Rooney, F.R.C.S.I., to be Brigade-Surgeon-Lieutenant-Colonel, vice I. McD. O'Farrel, F.R.C.S.I., retired (dated June 16th, 1892).—Surgeon-Captains John G. S. Lewis and John L. Hall to be Surgeon-Majors (dated July 6th, 1892).—The Queen has approved of the retirement from the Service of Brigade-Surgeon-Lieutenant-Colonel Kenneth McLeod, M.D., Bengal Medical Establishment (dated April 16th, 1892).

INDIAN MEDICAL SERVICE.

Surgeon-Captain H. W. Stevenson, Superintendent of Mahableshwur, in the district of Satara, is appointed to be a Magistrate of the Second Class in that district.—The services of Brigade-Surgeon-Lieutenant-Colonel Spencer, Chief Medical Officer in Rajputana, have been replaced at the disposal of the Commander-in-Chief for appointment to the administrative medical charge of the Presidency district, vice Surgeon-Colonel Morice, who has proceeded on eight months' leave to England.—2–1st Gurkhas: Surgeon-Captain H. Smith to the officiating medical charge. 3rd Sikh Infantry: Surgeon-Captain C. H. James, from 20th Punjab Infantry, to the officiating medical charge. 2nd Punjab Infantry: Surgeon-

Lieutenant B. G. Seton to the officiating medical charge. 5th Bengal Cavalry: Surgeon-Major H. Hamilton, from 10th Bengal Infantry, to the officiating medical charge.—Surgeon-Captain A. H. Nott is appointed to act as Civil Surgeon of Hooghly.—Surgeon-Major F. C. Reeves is appointed to be District Surgeon and Superintendent of Gaol, Madura, vice Surgeon-Major W. B. Browning.—Surgeon-Captain W. H. Gray assumed charge of the civil medical duties of Dera Ismail Khan on June 4th, relieving Surgeon-Captain C. E. Sunder.—Dr. G. D. McReddie, M.D., Civil Surgeon, Hardoi, is appointed to officiate as Superintendent, Lucknow Central Prison, from date of taking charge from Surgeon-Major A. E. R. Stephens.—Brigade-Surgeon-Lieutenant-Colonel W. R. Hooper, Civil Surgeon, Lucknow, is appointed to hold visiting medical charge of the Hardoi district, in addition to his own duties, during the absence on deputation of Dr. G. D. McReddie.

YEOMANRY CAVALRY.—Middlesex (the Duke of Cambridge's Hussars): Charles Elliott Leopold Barton Hudson, Gent., to be Surgeon-Lieutenant (dated July 16th, 1892).

VOLUNTEER CORPS.—*Rifle:* 3rd Volunteer Battalion (the Devonshire Regiment): Surgeon-Captain F. A. Gray to be Surgeon-Major (dated July 16th, 1892).—21st Middlesex (the Finsbury): Surgeon-Captain J. Adams to be Surgeon-Major (dated July 16th, 1892).—1st Volunteer Battalion (the Prince of Wales's North Staffordshire Regiment): Surgeon-Major E. Gailey resigns his commission; also is permitted to retain his rank and to continue to wear the uniform of the Battalion on his retirement (dated July 16th, 1892).—2nd Volunteer Battalion (the York and Lancaster Regiment): Surgeon-Captain C. S. Blythman to be Surgeon-Lieutenant-Colonel, to resign his commission; also to be permitted to retain his rank, and to continue to wear the uniform of the Battalion on his retirement (dated July 16th, 1892).—3rd (Renfrewshire) Volunteer Battalion, Princess Louise's (Argyll and Sutherland Highlanders): Surgeon-Major J. Mackinlay, jun., M.D., resigns his commission; also is permitted to retain his rank, and to continue to wear the uniform of the Battalion on his retirement (dated July 16th, 1892).

THE MEDICAL BATTERY COMPANY *v.* JEFFERY.

IMPORTANT JUDGMENT.

WE are indebted to the courtesy of the editor of the *Electrical Review* for the following account of a county court case which will be of interest to our readers:—

On Tuesday, at the Bloomsbury County Court, before his Honour Judge Bacon, the claim and counter-claim in the above-named action were heard. Mr. De Witt (barrister-at-law) appeared for the company, and Mr. Lickfold (Messrs Lewis and Lewis) appeared for the defendant. The claim was £3 5*s*., balance of £5 5*s*., the price of an electric belt (Harness's patent) supplied by the plaintiff company to the defendant; and the defendant, by way of counter-claim, sought to have an I O U for £3 5*s*. delivered up to him, and the sum of £2 cash returned to him on the two following grounds: First, that he was induced to buy the electric belt through misrepresentation; and, secondly, that there was no good consideration for the contract into which he had entered with the plaintiff company.

Mr. De Witt said the plaintiff company carried on business at 52, Oxford-street, and were very well known, and had acquired a high reputation through their sales of electrical appliances for the cure of diseases. His Honour was probably aware of Harness's patents for electric belts and similar appliances. The plaintiffs had a branch establishment where they treated such matters as sprains, injuries to the joints, hernia and ruptures. On May 9th last the defendant, who was a bank clerk, came to the plaintiffs' place and said he thought he was suffering from a sprain. The receiving officer of the establishment at once introduced him to Mr. Simmonds, an expert in these matters in the employ of the plaintiffs. Mr. Jeffery said he had a sprain, and was afraid that it might turn to rupture. Mr. Simmonds examined him, and told him it was desirable that he should wear one of Harness's electric belts with a suspender, in order to obviate what might develop into rupture. The defendant asked the price of the belt and was told £5 5*s*. The defendant said he could not afford £5 5*s*., and Simmonds asked, "What can you pay?" The defendant said he had £2, and would pay the balance presently. Simmonds agreed to take the £2, and an I O U for the £3 5*s*. balance. The defendant agreed to this, and took away the belt. Nothing more was heard until early in June, when the plaintiff company received a letter from the defendant complaining of the belt, but the plaintiff company could not find the letter.

Mr. Lickfold said he was able to produce a copy which he would read. The defendant stated that after wearing the electric belt for some time sores were brought out on his body. The belt only aggravated the complaint. He had consulted a medical man and was ordered to leave it off at once, as such an article was in no way fitted for rupture. He demanded the return of his £2 and I O U for £3 5*s*. and threatened legal proceedings in default. In reply, the plaintiff company wrote offering to exchange the belt if it did not fit. It was their custom to supply a good-fitting for an ill-fitting belt free of charge. On June 18th the defendant wrote saying there could be no ambiguity about his former letter and said that unless he received his £2 back and his I O U for £3 5*s*. was returned, he should instruct Messrs. Lewis and Lewis to proceed against them. The defendants replied, threatening legal proceedings to recover balance of account, but confirming their previous offer to exchange the belt. On the 27th Messrs. Lewis and Lewis wrote to the plaintiff company and in reply received a letter from the solicitors to the plaintiff company to the effect that proceedings had already been taken against the defendant. The defendant then filed his counter-claim.

Mr. De Witt, continuing, said the correspondence showed the position of the parties. To resume his narrative: the defendant kept the belt for one month, and when asked to pay the balance of the purchase money refused, saying he was suffering from rupture. He did not know if his learned friend (Mr. Lickfold) relied on breach of warranty, or on misrepresentation. If on breach of warranty, then Mr. Simmonds would go into the box and say he never warranted that the belt would cure the defendant.

Mr. Lickfold: I shall not say anything so absurd as that anybody warranted that the belt would cure anything.

His Honour: The counter-claim is for misrepresentation.

Mr. De Witt: And what misrepresentation?

Mr. Lickfold: The defendant called and asked to see a properly qualified man.

Mr. De Witt: I shall call Mr. Simmonds, who will tell you that in cases of hernia and rupture he is a qualified man. In cases of rupture he is a specialist, and has had, since his connexion with the plaintiff company, no less than 16,900 cases of rupture pass through his hands. In that respect he is qualified. He never said he was a qualified medical man. If the defendant had required to see a medical man, he might have seen one of the two gentlemen always on the premises. Mr. Simmonds will tell the court that on May 9th the defendant had not a rupture, but showed symptoms of what might develop into rupture and therefore it was necessary that he should have the internal pressure relieved by external support. The false representation set up here by the counter-claim is that Mr. Simmonds told the defendant he had not a rupture, and it was not until a month afterwards that the defendant learned he was ruptured. Now, a rupture may happen in a very few days.

His Honour: Yes, and sometimes in a very few minutes.

Mr. De Witt: If the defendant can establish misrepresentation there is an end to the case. But there is no misrepresentation in saying that Mr. Simmonds is a "qualified" man, and no misrepresentation in saying that on May 9th the defendant was not actually suffering from rupture.

The following evidence was then taken:—

Mr. Frederick Thomas Simmonds, examined by Mr. De Witt: I have been in the employ of the plaintiff company for nearly seven years. I have had great experience in fitting trusses and dealing with hernia and strains. During that time 16,900 cases have passed through my hands.

His Honour: How do you arrive at that estimate?

Witness: I have taken the last six months as an average and multiplied by thirteen.

Examination continued: The defendant came to our establishment on May 9th and saw one of the receiving officers. He was shown to my consulting-room. He said he had a sprain which he thought might develop into rupture. I examined him and said the hernia was incomplete.

His Honour: Then he was ruptured really?

Witness: No, not absolutely. The internal ring was disturbed, but not the external.

Examination continued: I thought there was a fear that that might happen. I recommended this electric belt in order to decrease the pressure and to give a tone to the muscles.

His Honour: Why did you not give him a truss?

Witness: He did not require one. My experience is that the wearing of a truss when not necessary is injurious.

What would be the effect of wearing a belt?—It would strengthen the walls of the abdomen.

Would not the wearing of a truss do the same thing?—No, certainly not.

Examination continued: The defendant did not take up his I O U. If he had come to us we would have changed the belt.

The defendant says the wearing of the belt was attended with painful consequences—could you have alleviated that?—Yes.

How?—That depends on what the painful consequences were.

When you fitted the belt as you fitted it, would that be attended by painful consequences?—Hardly ever.

Would the wearing of it hurt him?—Certainly not.

When the defendant was consulting you what representations did you make to him?—Nothing particular. He said he was suffering from strain. I told him if he wore the belt for a certain time the injury would probably be removed, as it had been in thousands of cases.

What did you say about your qualifications?—Nothing; he never asked me any question.

Did you say to him that you were a "qualified" man?—No; certainly not.

Did you say you believed you could relieve him of the pain from which he was suffering?—Certainly.

Was it unlikely that a rupture would develop by June 9th if he did not wear a belt?—Not at all.

Cross-examined by Mr. Lickfold: I have been employed by the plaintiff company for nearly seven years. I began treating hernia after I had been with them for about three months.

What were you before you were employed at Harness's?—I was engaged in commercial pursuits.

Have you any qualification for treating hernia?—I have studied it all my life; ever since I was nine years of age.

What was your "commercial pursuit" before you were employed by the plaintiffs?—I was a salesman in the West-end of London.

What, in the drapery line?—No, in Oriental furniture.

You do not acquire much knowledge of the treatment of hernia in selling Oriental furniture?—No.

And yet after being in the plaintiff's employ for three months you developed into this consulting person?—Yes.

You thought you had sufficient knowledge?—Yes, I had assistance from others. I am now one of the consulting officers. There are two qualified medical men on the premises daily from ten until six. I do not think it absolutely necessary to consult them in cases of hernia.

Is electricity a good thing for hernia?—Yes, in some cases. In the first or incipient form of hernia electricity would be a good thing.

His Honour: What would be its effect?—It would give a tone to the muscles—to the weak parts.

Cross-examination continued: Hernia is a bursting of the internal coating of the stomach?—Not of the stomach, the abdomen.

And the bowel protrudes?—Sometimes. It must protrude to form a hernia.

Was there this protrusion when you saw the defendant?—There was a protrusion through the internal ring.

What would be the effect of electricity?—I cannot say, but the belt would give support.

Would the electricity heal the hernia?—No.

Would not the effect of wearing this belt be to press downwards and so aggravate the symptoms?—No, not a properly shaped belt. There would be support and the pressure would be upwards.

How many belts did you fit on the defendant?—Only one.

What skill did you show, then, in your treatment of the defendant?—I placed the defendant in a recumbent position, examined the whole of the canal and fitted a belt on him adapted to his case.

Why did you not send for one of the medical attendants?—Because in matters relating to hernia my practice is far beyond theirs.

And you do not think it necessary to consult them?—Not except in a very complicated and abstruse case; and then they generally leave it to me.

If a person came to your place and said he wanted to consult a medical man?—He would be sent to a medical man.

If he said he wanted to consult someone on hernia?—He would be sent to me.

This belt [the belt sold to and worn by the defendant] weighs between 2lb. and 3lb. Is that a proper belt for hernia?—Yes, for incipient hernia.

How many of these have you in stock?—Between 500 and 600.

Is there any electricity in this?—Yes.

And the patient did not require more electricity than he would get out of this belt?—He would not require an electric battery.

Do you mean to pledge your oath that there is any electrical current here?—I have no knowledge of electricity.

Then why did you sell an electric belt and charge £5 5*s.* for it?—I have not a large knowledge of electricity, but I have a sufficient knowledge of its physiological effects to know that it would be useful.

Do you pledge your oath that the patient would get a serviceable amount of electricity from this belt?—Yes, certainly. The moisture of the body would complete the circuit.

Did not the defendant when he called on you ask for a truss?—No.

How much would a truss cost?—From 7*s.* 6*d.* to 12*s.* 6*d.*

If you merely intended to support the parts you could get as much support from a plain belt as from this belt?—Certainly.

Then why did you sell him this?—He wanted a tonic to the local parts.

And so you thought you would give him this affair?—Yes. I did not give the defendant his bill; it was brought to him.

What is the intrinsic value of this thing?—I do not know.

About 15*s.*?—I have no idea. I have nothing to do with the cost of the goods.

You are above that sort of thing?—A little above it.

Re-examined: These belts are patented by Mr. Harness?—Yes. Harness has a large number of patents. I am not an electrical expert, and I do not know the mode in which the electrical current passes.

This was the plaintiffs' case.

Mr. Lickfold, addressing the Court, said the defendant was a cashier in the Union Bank, and having, as he feared, ruptured himself, his attention was attracted to an advertisement calling attention to the Electropathic and Zander Institute, 52, Oxford-street, where medical advice was given gratis. He asked to see a medical man. He saw Mr. Simmonds and told him he was suffering from rupture. Mr. Simmonds examined him and told him he was not so suffering and added: "You must have one of our belts and that will set you right." The defendant was fitted on and took a belt costing £5 5*s.* Instead of doing good, the belt chafed the skin and caused an eruption and the illness was so aggravated that the defendant consulted a medical man, Dr. Rowntree. After going through the facts, which he would prove in evidence, the learned gentleman submitted that there had been misrepresentation in this case, because Mr. Simmonds was not a qualified man, and because he misled the defendant by telling him that he was not suffering from hernia when he was so suffering. Then the defendant was entitled to have his money and I O U returned to him as he had not received any good and proper consideration for his money.

The defendant, Mr. D. Jeffery, in examination-in-chief, said in consequence of what I read in an advertisement I called at Harness's place, 52, Oxford-street. I saw a porter and said I wanted to see a qualified gentleman to inform me if I was ruptured or not. I was introduced to Mr. Simmonds. I told him I feared I was ruptured and wanted a truss. He examined me and said I was not suffering from hernia, and if I used one of Harness's belts I should derive benefit from it. He said he would recommend me an electric belt and I should soon be all right. He fitted one on me. I dressed. Someone else presented me with a bill for £5 5*s.* I only had £2 with me and the cashier said my I O U for £3 5*s.* balance would do. I was very pleased at being told that I was not ruptured. I wore the belt for some time and it gave me great pain. There was a downward pressure and a lump formed in my groin; an external sore also formed. When I took off the belt I felt relief. I consulted Dr. Rowntree. I left off the belt entirely and wore a truss, which cost 12*s.* 6*d.* I am much better now. The doctor told me I was ruptured and had been so for some time.

Cross-examined by Mr. De Witt: I have been a bank clerk for twenty-nine years. I told Mr. Simmonds I feared I was ruptured. He examined me carefully, I believe. I do not think he wilfully intended to do me any mischief. I saw Dr. Rowntree on May 23rd. Between May 9th, when I called at the plaintiffs' establishment, and May 23rd, when I saw the doctor, I had been attending to my business. I wore the belt for more than a week. I got so bad that when I moved I was in excruciating pain. I did not ask the price of the belt before it was fitted on, and had I known it was £5 5*s.* I would not have purchased it.

What is the false representation you complain of?—That Simmonds told me I was not ruptured.

You complain that you were induced to part with £2 by a false representation. What was the false representation?—I went for a truss. Simmonds assured me that I did not want a truss, and that I was not ruptured.

Re-examined: I got worse whilst wearing the belt.

Mr. William George Rowntree, L.R.C.P., examined, said: On May 23rd Mr. Jeffery called on me at my house. I examined him and found that he was suffering from rupture. There was no doubt about the nature of his suffering. I have examined the belt and I say if it was fitted tight on a patient suffering from rupture it would aggravate the complaint. I have heard the defendant's evidence as to the swelling in the groin, and I think that that swelling had existed for some time previous to my seeing him.

Would the belt produce that swelling?—Not unless there was previous hernia.

Would this belt be of any use to the defendant?—Not of the slightest use. I recommended a truss and the patient is getting better.

Cross-examined by Mr. De Witt: Rupture may come on in a few minutes, but there are generally previous symptoms well known to medical men. I undertake to say that the defendant was suffering from rupture on May 9th. I believe the rupture was of one month's duration at least—and from the symptoms which the defendant described to me, it might have been of three months' duration.

Mr. Tom Ernest Gatehouse, examined by Mr. Lickfold, said: I am an electrical and consulting engineer of twenty-two years' standing.

Have you examined this belt (produced and handed to witness)?—Yes.

And what do you say of its electrical powers?—I say that it has not any, and that it is utterly useless.

Why do you say so?—Because I have tested it.

Is there something in it—some zinc and copper—and why do you say it is useless as an electrical appliance?—Because as the belt stands it cannot generate any electricity at all.

His Honour: You have heard the witness (Mr. Simmonds) say that the moisture of the body, acting on these bits of zinc and copper, would complete the circuit. Have you tried it in this way?

Witness: Yes. The moisture of the body is supposed to act chemically on these metals. Your Honour is acquainted with the old schoolboy experiment of putting half-a-crown under and a penny above the tongue, and on bringing the two metals in contact little flashes of light appear before the eyes of certain people.

His Honour: I did not know about the light. I thought you could only taste.

Witness continuing: The moisture of the body would be sufficient to set up a current between two dissimilar metals, but you must have a complete circuit. If I place one half of this belt on my stomach and the other half on my back, I have the elements for a galvanic battery, but there is no completion of the electrical circuit.

His Honour: The witness says the circuit is completed by the action of the moisture.

Witness: That is the internal, and not the external circuit.

His Honour: Why would not a body touched back and front and all around complete a circuit?

Witness: As this belt was worn it never produced a trace of electricity. This morning I made an experiment with this belt, so as to produce a small quantity of electricity. I took salt water and moistened the two parts, and then I connected the copper and zinc with a galvanometer, and so I got a slight deflection of the needle of about fourteen degrees. I then put the belt on my legs and on my arms and the deflection was not in the slightest degree altered. That shows that when these belts are worn by any patient no electricity passes through the body in any way whatever, but only along the webbing of the belt and over the skin surface. Electrically, these things are useless.

Mr. Lickfold: Then you say this belt electrically is absolutely a useless article?

Witness: Yes.

Cross-examined by Mr. De Witt: Zinc and copper are used in generating electricity.

Do you say that this belt would produce no current at all?—Not as the defendant wore it. The circuit was not completed. I saturated this belt with salt water, and then I got a small electrical current. I say there is a current, but the current, if properly connected up, will not go through the body—it is the webbing and skin and not the body which forms the internal circuit.

This concluded the evidence.

Mr. De Witt contended that though there might have been an error in judgment on the part of Mr. Simmonds, there had been no wilful misrepresentation, such as, according to the ruling in the case of Peek *v.* Derry, would entitle the defendant to have his contract rescinded and his money returned. He also submitted that there had been no failure on the plaintiff's part to give the defendant consideration for his money.

His Honour, in giving judgment, said: In this case the plaintiff sues for the balance of the purchase money of an electrical appliance, and the defendant by his counter-claim says: I want to get back the money which I paid on account, either on the ground that I bought it on the misrepresentations made to me by your agents, or on the ground of a failure of consideration. The defendant has been taken in in the sense that he has been persuaded to buy something utterly useless. It is not every such case which will entitle the purchaser to avoid his purchase and have back the purchase money, but there are cases in which the purchaser is entitled to avoid his contract. After referring to the case of Peek and Derry, his Honour continued: I think it is clear, on the evidence, that the defendant went to the plaintiffs' establishment and asked to see a qualified doctor. That was uncontradicted. The defendant has shown that the gentleman whom he saw (the gentleman who calls himself an "expert," a gentleman without any medical education, or education in this matter, except having studied the best works on the subject since he was nine years of age), and when he asked for a truss recommended him something which he said was better. The defendant has shown that this gentleman told him he was not suffering from rupture, but only from the beginning of rupture. I have no doubt from the evidence Mr. Simmonds said to the defendant: "I

am happy to tell you you are not ruptured." But that was not the fact; the defendant was ruptured, as I cannot help believing from the evidence of Dr. Rowntree, who says: "From my observation, and from the symptoms described to me by the defendant, I am satisfied that the rupture had existed three months before I saw him on May 23rd." Then was the thing which the defendant received the thing which he asked for? I will not enter into the merits of an electrical appliance which I do not understand. Mr. Gatehouse's evidence as to the electrical volume may be right or wrong—I do not know; but this (this belt) is the thing put on the man when he was ruptured, and the man was persuaded to buy it upon the representation that he was not ruptured. He went for a truss. He was told, "You do not want a truss." This is a representation made by a man who had not taken the trouble to qualify himself, and who ought not to have made any representation at all. That was the representation which led to the contract—a contract without any good of any sort to the defendant, and it must be avoided. There must be judgment for the defendant on his counter-claim, and his £3 must be returned to him.

Mr. Lickfold applied for costs on the higher scale.

His Honour refused the application. Judgment accordingly.

Correspondence.

"Audi alteram partem."

A TEACHING UNIVERSITY FOR LONDON.

To the Editors of THE LANCET.

SIRS,—In your issue of July 16th you publish an annotation upon "A Teaching University for London," which contains evidence that upon some points the proposals of the Association for Promoting a Professorial University for London have not been fully understood. I have myself no right to speak authoritatively for this Association; but it has been my duty to inquire into their views, and, as expounded to me by the secretary and other members of the Association, they differ very markedly from what you state them to be. I am not at all surprised that you have been misled, for I have not yet met the man who, without skilled assistance, has succeeded in appreciating the true meaning of the proposals of the Association. They are exceedingly sketchy, particularly with regard to medicine—rightly so, I should say. The scheme was foreshadowed in the fourth proposal of the Association for Promoting a Teaching University for London (February, 1886); its main features were clearly enunciated by Professor Ray Lankester in his evidence before the Royal Commission (June 23rd, 1888); and now it appears again with much wider support. Practically this scheme comes from the faculties of Arts and Science, and it is a bold move to obtain for London, not at once, but in the course of time, the advantages of a great university, such as those of Berlin or Strassburg. There are apparently two things chiefly which attract great minds—viz., large emoluments and great opportunities for work and teaching. Neither the endowment of the chairs in University College and King's College, or the perfection of their laboratories, or the size or quality of their classes, is sufficient to enable these institutions to obtain and to retain the services of the greatest teachers and workers in the various subjects. The two colleges say in the Gresham Charter—"Give us the power of granting degrees to students whom we have taught and our benches will soon fill, as also will our pockets; then we shall be able to improve our laboratories and to pay the best teachers, and all will go well with us; there is nothing in the Gresham Charter to prevent our blending as closely as we like, to prevent our establishing intercollegiate lectures &c." The promoters of the professorial scheme reply that in the Gresham Charter there is not the least guarantee that there will be any common action between the two colleges; on the contrary, the Senate consists very largely of the representatives of institutions—put there, confessedly, to "guard the interests" of the institutions—and this can hardly be taken as a good start towards union in a common university. They suggest that the governing bodies of institutions, such as the two colleges, should if possible be persuaded to hand over their trust to the Senate of the new University; rather a startling request, yet one which a recent vote of the Council of University College would show to be not absolutely absurd. One cannot help feeling, however, that King's College would have still greater difficulty in joining in such a scheme, as it was recently founded and endowed as a Church of England institution; and, although its trust funds might conceivably be reserved for the benefit of adherents (real or nominal) of the church, such an arrangement would cause great and lasting discontent, and the influence of the college from the sectarian point of view would be lost. The authorities might, however, regard the establishment of a theological faculty in the University as a counterbalancing gain, for a faculty conducted by earnest men of wide sympathies would have greater opportunities for good than King's College alone could obtain.

Assuming that the two colleges consented to this absorption, and that the Government School of Science at South Kensington (many of the professors are strongly in favour of the scheme) came in with other institutions, it is supposed that the University would determine to use the buildings of each in various ways—e.g., those of King's College for arts and theology, those of South Kensington for pure science and those of University College for the technical application of science. The question at once arises, What is to become of the present teachers in these institutions? Many wild answers have been given, but the only one commending itself to sober judgment is that the institutions must be taken over by the University as "going concerns"—teachers and all—and that only as vacancies occur will the contemplated fusion become possible. Years will be necessary to the working out and development of the idea. All that has to be done now is to decide whether the idea or principle of centralisation is that from which the greatest University for London is likely to grow. Supposing the opinion of the majority to be in favour of this idea, the various institutions coming in to the University are put upon it, so to speak, as a child with a flexed hip is laid upon a Thomas's splint. There is to be no violent wrenching, with its accompanying pain and many dangers, but time is allowed in full confidence that the limb will settle down on to the splint with the minimum of local and general disturbance. Ultimately it is thought that there will be a university professor at the head of each branch of arts and science, but there may be any number of extraordinary professors, lecturers, readers and other teachers in the different branches.

But what is "the University" as the term is used in the professorial scheme? The proposals were that the University should consist of the Senate, faculties, convocation and undergraduates, but the constitution and powers of the Senate and the powers of the faculties were not defined. These are important matters about which, again, there are many opinions. The suggestion for the Senate which we have heard most often is that one-half should be nominated by the Crown and that the other half should consist of the University professors in about equal numbers from each of the faculties. This would be a very large body if anything like all the University professors had seats and many seem to feel that the supreme authority would be left in the hands of "irresponsible professors," "not representing anybody but themselves." But as a large outside admixture is contemplated, as an appeal to the Privy Council upon the action of the Senate is to be allowed to Convocation and as the powers of the faculties are yet unframed, it would probably be possible to provide against any sense of irresponsibility on the part of the University professors; if not, some other constitution of the Senate might be arranged. Every professor would be *ex officio* an examiner in his subject; other examiners not professors would be appointed to take part in all degree examinations. These latter may be members of the University or not. The right association of teaching and examining is thus assured. Lastly, it is hoped that the University will be the remodelled University of London; those who are striving to do away with injurious competition between colleges are anxious not to introduce it between universities. Moreover, it is stated that the Senate of the London University has recently, with only one dissentient voice, resolved that it would receive with favour a recommendation from the Royal Commission that a professoriate should be added to the London University with a substantial voice upon the Senate. Thus, the London University might become a teaching university for London with (as is suggested) its pass examinations open to the undergraduates only, but with its honours examinations open to the world.

How would medicine be affected? What position would it occupy in, and what advantages would it gain from, a professorial university? The supporters of the scheme say that in any university in London the medical faculty must be great, but that under the professorial scheme it will be associated with far greater brethren—if I may so speak of the other faculties—than is at all likely under the Gresham scheme. Its graduates and undergraduates would have

access to the University laboratories. The medical teachers of London are offered one-fourth of the professorial half of the Senate, supposing that there are four faculties at the start. All the teachers in the medical schools of London would have seats in the faculty, the functions of which would probably be electoral. The teachers would thus practically regulate matters medical; but the arrangements for the examination of medical undergraduates in arts and science would be made by the independent boards of studies in arts and science acting conjointly with that in medicine, a guarantee being thus afforded to the provincial schools that the new University will not neglect these matters in its medical degrees. On this understanding the opponents of the Gresham scheme have signed the proposals for a professorial university. The idea of "absorbing" the medical schools has never been entertained. It is suggested that the teaching of pure science (chemistry, physics and biology) might with advantage be placed in the hands of the University; but this does not imply that the University contemplates endeavouring to teach 500 or 600 first-year men in a single class. There is, however, no compulsion; each school can if it pleases continue to teach science and the University degrees will be open to its students. It is generally acknowledged that the amalgamation of some of the schools would render their teaching of certain subjects better than it now is. If the idea of the professorial university should be adopted the medical schools, like the colleges, will feel its influence, and those who believe in the idea are confident that amalgamation, so far as it is desirable for thorough teaching, will result. Other doubtful matters may be left to solve themselves.

As I understand things, we have now to make a choice between a university in which the central idea is the perpetuation of the interests of rival institutions and one in which institutions as such will have no weight and all forces will be united for the common good. Medicine, with its complete organisation in London and the examinations of the Conjoint Board conducted practically by London teachers, wants mainly the power to grant an M.D., and that it will get under either scheme. Shall its weight be thrown into the balance with the Gresham Charter, thus to secure the first place in a university of which real success is doubtful; or, looking to the general interests of education, shall it endeavour to obtain the establishment of a university in which its representation will be smaller—though still, upon the system adopted, proportionate—in which that great source of weakness—compromise—is set aside and the probability of free and healthy growth is correspondingly increased?

I am, Sirs, yours obediently,

July 20th, 1892. STANLEY BOYD.

To the Editors of THE LANCET.

SIRS,—May I ask so much of your space as will suffice to remove from the minds of your readers any erroneous impression which might be conveyed by the article in your last issue, entitled "A Teaching University for London"? You refer therein to the scheme put forward by the Association for Promoting a Professorial University for London, which you there summarise under six headings. Those headings are taken from a document put forward in the first instance by the promoters of the Association. The Association itself has never accepted or sanctioned the document to which you refer. It appointed an executive committee to draft a scheme, which has received the approval of the Association, and which is the sole authoritative document of the Association. That document has been published in *The Times*, the *Academy*, *Nature* and other newspapers, and I enclose a copy of it for your perusal. It especially excludes the medical schools from the principle of absorption and leaves the constitution of the medical faculty largely in the hands of the medical teachers themselves, subject to some sufficient guarantee that a medical degree shall mark a general academic culture and not be the mere equivalent of a licence to practise. The executive committee of the Association are not only willing but desirous of working for a university which shall not be opposed by the medical schools either of London or of the provinces, but they cannot look with favour on a scheme like that of the Gresham Charter, which failed, in their opinion, to meet the requisites of a great modern university. As a matter of practical politics, I venture to think that it is as idle now (especially having regard to the probable change in the Government), as it was when I wrote to you in the spring, to work for the Gresham Charter. The Association for Promoting a Professorial University is now a very strong body, and if the representatives of the medical schools can come to anything like an agreement with its executive committee, there will be a far better chance than has hitherto been possible for a really great metropolitan university.

I am, Sirs, yours truly,

Crowborough, July 16th, 1892. KARL PEARSON.

To the Editors of THE LANCET.

SIRS,—According to accounts the Royal Commission on a Teaching University for London is proceeding rapidly. Will you allow me through your columns to direct attention to one fatal blot in the last scheme which, it is to be hoped, will not reappear in the next?—viz., that the much-wanted medical degree for London students which is to counteract the centrifugal force of Scotch and provincial universities is to have no validity as a *qualification*, or as admitting to the Medical Register. Is it conceivable, Sirs, that if such an indignity be put on the new degree it can be tolerated? That while any other degree—from that of St. Andrews to that of Oxford—admits to the Register, this metropolitan University degree shall not do so? Unless the metropolitan community is sunk to such an apathy as to disentitle it to the university facilities of every capital in Europe and of every third-rate town in Germany or Scotland, such a stigma will not be borne, no matter what the vested interests are by which it is sought to be furtively imposed on a Parliament too much absorbed in party politics to care for academic ones. I am glad to be assured that this vital point is not being overlooked by all the Commissioners.

I am, Sirs, yours obediently,

Highbury-place, July 20th, 1892. JAMES GREY GLOVER.

"APPARENT DEATH IN CHOLERA."

To the Editors of THE LANCET.

SIRS.—I notice, under the above heading, in THE LANCET of July 16th, page 154, the following statement in connexion with Dr. Pacini's pamphlet, "La Morte Apparente della Colèra," published thirty years ago:—"Among his prescriptions, that of the intravenous injection of bay-salt, as suggested and practised in 1832 by Dr. James Macintosh of Edinburgh, held a prominent place, and by this means, particularly in the cholera visitations of 1877 and 1884, the restoration to life of many duly certified as dead was just in the nick of time effected." The Dr. James Macintosh alluded to is doubtless Dr. John Mackintosh, for many years extra-academical lecturer in the Argyle-square Medical School. On consulting his work on the Practice of Physic it will be seen that he gives the credit of originating this heroic treatment of a disease that "begins with death" (as he was accustomed in his lectures to term "cholera") to Drs. Latta and Lewins of Leith, in which seaport the epidemic of 1832 was particularly malignant. The latter-named physician was my father, and I have often heard him speak of the improvement effected by the warm salt-water injection as only temporary and in no single case resulting in recovery, as apparently claimed for Dr. Pacini practically in the above extract from THE LANCET.

I am, Sirs, yours truly,

R. LEWINS, M.D.,

Army and Navy Club, July 18th, 1892. Surg.-Lieut.-Colonel (R.).

ANÆSTHETICS AT THE INTERNATIONAL MEDICAL CONGRESS.

To the Editors of THE LANCET.

SIRS,—On my return from the International Medical Congress held in Berlin in 1890 I ventured to express the opinion in your columns that at future Congresses it would be desirable to have a separate section for the discussion of anæsthetics and allied subjects. In your issue of July 9th you draw attention to the fact that we are now within measurable distance of the Congress to be held in Rome in September, 1893. Might I therefore be permitted again to express the hope that it will be found possible to make the alteration suggested? The increasing amount of attention which is being given to the subject is well known, and if any proof of this fact were necessary, it would be furnished by the pages of the Report of the Berlin Congress, just completed. In that report upwards of forty-five pages are

devoted to anæsthetics, and there can be little doubt that much more material would have been forthcoming but for the uncertainty which prevailed as to the particular section in which each individual paper was to be read, for the papers, demonstrations and discussions on the subject were distributed over seven sittings of five different sections. I need hardly add perhaps that by establishing a separate section or subsection for anæsthetics some of the pressure upon the other sections would be relieved.

I am, Sirs, yours faithfully,

J. FREDK. W. SILK.

Assistant Anæsthetist to Guy's Hospital, Anæsthetist to the Dental School, &c.

Weymouth-street, W., July 19th, 1892.

"A MANUAL OF CHEMISTRY, INORGANIC AND ORGANIC, FOR THE USE OF STUDENTS OF MEDICINE."

To the Editors of THE LANCET.

SIRS,—I should not ordinarily contemplate replying to the criticisms contained in your pages of a work emanating from my pen, but in the review of my "Manual of Chemistry" in your last issue there is at least one statement both misleading and inaccurate, which, with your permission, I will briefly explain. I do not propose to touch upon the debatable points, concerning which differences of opinion exist among chemists, and in connexion with which I believe I am in accord with the majority of chemists, notwithstanding the dogmatism of your reviewer. What I wish to refer to is a mere matter of fact, about which there can be no question of controversy whatever, and for the expression of which I request, in simple justice, as much publicity as you have given to the notice in question. Your reviewer in part bases his idea that the book requires more careful revision and the exercise of greater care with the proof sheets upon his supposed discovery of three typographical errors in a book of 525 pages. He states that "Nitric acid, for example, is represented on page 117 as $OHNO_3$." I know not whether this statement is due to careless reading, failing eyesight, or deficiency of chemical knowledge on the part of your reviewer, but a reference to the page in question will convince the merest tyro in chemistry that 20 molecules of HNO_3 are indicated and that your reviewer has attached the cipher of the 20 to the HNO_3.

I do not dwell upon the question as to whether a review of a book should be exclusively directed to the dragging in of polemical matters and to the exposure of small printer's errors; such must be left to the taste of the reviewer, but I do think that a statement that a book "cannot be safely recommended until it is freed from the flaws to which we have made reference" should be based upon something more substantial than an error of eyesight or of comprehension on the part of a reviewer.

I am, Sirs, yours very truly,

Weymouth-street, W., July 18th, 1892. ARTHUR P. LUFF.

*** A reference to the review will show that our criticisms were not in the main based upon the single typographical error, which is practically the only point to which Dr. Luff replies. The mistake may be an obvious one, even perhaps to the "merest tyro." Twenty molecules of HNO_3 may be indicated, but as a matter of fact they are not represented. The "cypher" in front of the formula alluded to is not the figure 0, but the letter O. Our "dogmatisms" are the "dogmatisms" of Victor Meyer, Ostwald and other eminent chemists.—ED. L.

DISPOSAL OF REFUSE.

To the Editors of THE LANCET.

SIRS,—Will you kindly allow me a little space to call the attention of my professional brethren to a subject which, I venture to think, is of great importance at this season of the year, especially as it is not impossible that we may have cholera in our midst before long? I refer to the disposal of the refuse taken by the parish authorities from our dustbins. The following extract from the report of the case of Allhusen *v.* Vigers, before Mr. Justice Chitty, in the *Daily Chronicle* of July 18th will give one an idea of the danger which is allowed to go on unchecked in our midst:—

The plaintiff, who is the owner and occupier of Twyford Abbey, Ealing, brought his action against the defendant, a contractor, for the removal of town refuse, in respect of an alleged nuisance caused by deposit of this refuse about 400 yards from the abbey. Prior to the trial of the action he applied for an interim injunction to restrain the nuisance, which he contended was of such a character as to interfere with the comfort and enjoyment of his house and grounds. The defendant conveys the refuse he contracts for by barges on the Grand Junction Canal to the site in question, where it is deposited to the extent of 300 yards in length, thirty-five in width, and twenty-five in depth. The smell from this heap was said to be very bad, and in certain directions of the wind was conveyed as far as the plaintiff's premises.

Can someone not suggest or invent a method of disposing of such refuse, so that it shall not remain a pestiferous heap of decaying animal and vegetable matter? Mr. Justice Chitty kindly allowed defendants three weeks to find means to prevent the nuisance, at the same time suggesting that there was no method known at present.—I am, Sirs, yours faithfully,

GEO. HERSCHELL, M.D. Lond.

West-st., Finsbury-circus, E.C., July 18th, 1892.

THE TRANSFORMATION OF SMALL-POX INTO COW-POX.

To the Editors of THE LANCET.

SIRS,—I have been much interested in reading Dr. Hime's account of his supposed transformation of small-pox into cow-pox and only wish his experiments could set at rest the question of identity of variola and vaccinia. He has done what has been already accomplished by others and it has been pretty clearly shown that such supposed transformation has not been effected. I am still sceptical of the reality of such change, but am nevertheless quite open to conviction if Dr. Hime will afford further proof of the identity in origin of small-pox and cow-pox by transforming the latter into the former. This should be easily done if there is only one virus acting in the production of both. And what about sheep-pox, which in its clinical features and morbid anatomy so closely resembles human variola? The question of identity will not be solved until cow-pox can be converted into small-pox, which has not yet been done, and I am doubtful whether it will ever be achieved.

I am, Sirs, yours truly,

London, July 20th, 1892. GEORGE FLEMING.

THE HUNTERIAN LECTURES.

To the Editors of THE LANCET.

SIRS,—I have just read with the utmost surprise certain remarks in Mr. Robinson's lecture on villous growths of the breast, in which he says that in my paper on this subject[1] I have grouped together the cases of duct papilloma and villous cancer as growths of a perfectly innocent nature. By what subtle alchemy the candid lecturer has deduced this perverse conclusion from my paper passes my comprehension. In order to rescue this little known group of diseases from the obscurity that had hitherto involved them I laid it down as a fundamental axiom (p. 858) that under the term "villous cancer," as commonly employed, two perfectly distinct kinds of neoplasm were included—viz., the non-malignant villous papilloma and the malignant tubular cancer. I fully set forth and contrasted the salient pathological and clinical features of each of these groups; so that it seemed to me impossible for anyone to mistake them in the future. This fundamental distinction, dimly foreshadowed in the varied nomenclature of previous observers, had never before been definitely set forth. Mr. Robinson now adopts it as his own conclusion, together with the rest of my work, and coolly asserts that I never made the distinction. The result is that this part of his lecture is merely a parrot-like repetition of my paper—published several months previously—which he has had the audacity to appropriate and pervert, but not the grace to acknowledge.

I am, Sirs, yours faithfully,

Preston, July 14th, 1892. W. ROGER WILLIAMS, F.R.C.S.

CONTAGIOUS DISEASES IN GARRISON TOWNS.

To the Editors of THE LANCET.

SIRS,—Having taken a great interest in the above for some years I read with satisfaction that the matter is being taken up. It is now high time that something was

[1] THE LANCET, April 16th, 1892.

done and that we should form ourselves into a body and endeavour to introduce a measure which would minimise the amount of disease. An article appeared in a recent number of one of your contemporaries which represents the state of affairs existing in garrison towns, particularly that of women discharging themselves repeatedly from a workhouse lock wards and disseminating disease among newly arrived soldiers and sailors, returning as frequently to the wards in order to be temporarily built up in order to meet a new regiment. This is just the state of affairs which exist in my lock wards and is most disheartening, for, with a few exceptions, all the women discharge themselves before they are fit to be at large and are in and out like "dogs in a fair." I entirely agree with the article in every respect and am sure that what exists in one military town must be so in others. Many in the town where I reside who signed for the repeal of the Contagious Diseases Acts see their error.—I am, Sirs, yours truly,

July 17th, 1892. UBIQUE.

THE BRITISH INSTITUTE OF PUBLIC HEALTH.

To the Editors of THE LANCET.

SIRS,—I am desired by the Council of the above Institute to inform you that they have made arrangements for holding their annual conference in Dublin on Wednesday, Thursday and Friday, Aug. 17th, 18th and 19th, 1892, under the presidency of Sir Charles A. Cameron, medical officer of health to the City of Dublin. I am further desired to say that the President and Council will feel obliged if you will allow me through the medium of your columns to cordially invite the medical officers of health of the country and other gentlemen interested in public health to attend.

I am, Sirs, yours faithfully,

C. A. JAMES, L.R.C.P., D.P.H., Hon. Secretary.

July 18th, 1892.

THE FRENCH WORKMEN'S SANITARY CONGRESS.

(FROM OUR SPECIAL CORRESPONDENT.)

AT the fourth sitting of the Congress the discussion on the Hygiene of Infancy was reopened by the labour delegate of the Municipality of Châtellerault. He thought that the advice given by the learned professors who had delivered preparatory lectures was not always practical. It was supposed that cow's milk might convey tuberculosis and it had been shown how such milk could be sterilised; but working-class women had not the time to take such precautions and they were too untidy and too careless to carry them out effectively. Then it was said that tuberculosis in a cow could not be recognised till it had reached an advanced stage. This difficulty could be met by submitting all cows to an inoculation with Koch's tuberculin, and all cows displaying suspicious symptoms could be slaughtered. Thus the disease could be stamped out, to the great advantage of the bovine race and of humanity. This was more practical than asking workwomen to sterilise the milk.

A delegate from the eleventh arrondissement of Paris complained that poverty prevented workwomen from taking the necessary care of themselves and their children. When women went out as wet nurses, instead of suckling their own children, they were well fed and had good milk. If they remained at home the want of proper care and food impoverished their milk. Perhaps the milk was good for the first and the second child. The younger children of a workman's family were bred under the most unfavourable conditions and bore the stigma of the poverty into which they were born. Well might the population remain stationary. Yet if there is a right in this world it is certainly the right of the child to its mother's milk. The child did not ask to live; the mother belongs to the child and not the child to the mother. If the nation, if society, wished to live, society must mind its children. It was labour that made the wealth of society, it was society that profited by this wealth, and it was the duty and the interest of society to provide every creature born with the means of becoming a healthy and useful worker.

Mademoiselle Bonnevial, of the School Teachers' Union, reported that the women employed in the State tobacco factories had sent up petitions for the creation of a larger number of crêches with a demand for better medical surveillance. The Teachers' Union, specially represented by the speaker, thought that all congresses should have two objects—the proclamation of an ideal and the achievement of something immediately practical. They did not mind being called dreamers if by the side of their dreams they could show practical improvement. The ideal would be to abolish all crêches, all nursing and maternity establishments, and to give all mothers the means of enjoying abundance in healthy homes. The speaker freely recognised the great evil of the aggregation of children. The discipline inseparable from such establishments deprived children of that freedom so essential to their healthy development. It was wrong to make young children sit in classes. Parents were much to blame for trying to bring up their children as infant prodigies. Song and frolic should be the spontaneous and joyous outcome of freedom and health. Freedom is what the child wants, morally and physically. Freedom to run, to jump, to play with the earth, which seems the favourite of all amusements, as if the child felt instinctively that the earth was its first mother and was destined to provide its food for life. "Let those little children make their mud pies," pathetically pleaded Mdlle. Bonnevial.

The delegate of the Port de Flandres denounced clerical orphanages. In some of these the children had very little food and were terribly overworked. Yet they did not learn a trade, for the labour was so subdivided that when they left these establishments they were unfit to earn their living outside. He more particularly protested against the system of punishment consisting of solitary confinement. This tended to develop secret vices, more particularly among the girls, who became hysterical, anæmic and sometimes idiotic. In the name of virtue, humanity, and hygiene he demanded the suppression of the convent workshops.

The Congress then proceeded to discuss the third question, the Hygiene of the Workmen's Home. M. André Gély, who is a member of the official Commission on Unwholesome Dwellings, reported to the Congress. He lamented the tendency of the working classes to struggle only for political ends; they were constantly carried away by the "tall talkers," and men of science failed to move the masses. They could not get up an outcry against bad drainage and inefficient ventilation. Yet the housing of the population of Paris was at present in so deplorable a condition that there were proportionately three deaths in the poor quarters to every single death in the rich quarters. The poor slept three or four in the space where only one or two ought to live. Statistics also proved that in the districts of Paris where the old cesspools still existed the death-rate was higher. The existing laws were altogether inefficient. The appointment of a commission on unwholesome dwellings was optional. Only about a dozen of the more intelligent and important municipalities of France had appointed such commissions, and there were 36,000 municipalities in France. Some slums, it is true, had been abolished, but many remained that were quite as bad. It was absolutely necessary that a Ministry of Public Health should be created.

On the following day the Congress was presided over by M. Mercier, house painter and decorator, delegate of the municipality of Rochefort-sur-Mer. In opening the proceedings he demanded that the law of 1852, by which the outside of all houses had to be cleaned once in every ten years, should be made to apply to the inside of houses. He protested against the proposal to make workmen live in the suburbs of great towns; this would be most injurious, since it was by living in the centre, surrounded by the best shops, that the artisan acquired and preserved his ideas and his good taste. He protested against the model artisans' dwellings built on the Buttes de Chaumont, as tending to separate class from class. Philanthropists, with the best of intentions, were doing great harm by treating artisans' dwellings as something quite apart from the general questions of hygiene. If they wished to avoid class wars they had better mix and not separate the classes.

M. A. Lavy, member of the Chamber of Deputies, profited by an interval to express the gratitude of the Congress to the foreign press, but more especially to THE LANCET, for the publicity given to the work of the Congress. It was most essential that men of science, sanitary reformers, and legislators should know what the workmen themselves thought of the many efforts made to improve the sanitary condition of the great mass of the people. The publicity given, especially by THE LANCET, would tend to this end

and help to bring about harmony between the organised workers and the sanitary reformers of different countries.

Continuing the discussion, M. Forget, of the Newspaper Carriers' Society, complained that workmen could not effect improvements in the condition of their dwellings, for as soon as they appealed to the sanitary authorities they received notice to quit from their landlords.

M. Saint-Domingue, delegate of a labour group of Positivists, spoke of the fatal moral influence of unwholesome dwellings. When families live in one room children lost all sense of respect for their parents. Rents need not be reduced, but the accommodation should be much improved. The father was driven to the café to escape the discomfort and overcrowding of his home. The girls also, eager to make their escape from home, went early to the factory; they therefore did not learn how to keep house. The good housewife was fast disappearing, and this again added to the discomfort of the worker's home; all of which led to out-door life, to drink and vice.

M. André Gély continued his report and stated that the committee of the Congress appointed to study this question had received nine reports from various workmen's societies. There were points in common in these reports; these would be embodied in the resolutions to be submitted at the last sitting of the Congress. The Port de Flandres group had calculated that there was human flesh to the extent of about 3,000,000 kilogrammes buried in and about Paris. This must be an active cause of insalubrity, and the report concluded that cremation should be obligatory for all large towns. The Versailles group had a technical report on the disposal of slop-water, concluding in favour of a law rendering the use of sinks with trapped pipes obligatory. Though all the reports sent in demanded great improvements in house accommodation, there was not a single labour society or a single individual workman who asked for or approved of the building of artisans' dwellings. One report urged that the municipality should create washhouses and forbid home-washing. The floors were infected by the slops from dirty linen, and small apartments in crowded towns were not the proper places for washing dirty clothes. There should be more facility for taking baths. A great deal of the difficulty in finding house accommodation was due to the spirit of speculation. This would be checked if untenanted apartments were taxed in the same manner as tenanted houses.

Dr. Paul Brousse was glad to see that workmen had recognised the economic necessity of abandoning the small cottage home. With regard to dwelling in a large building, he pointed out the greater luxury which association and collective effort brought. To very large piles of buildings should be attached club-rooms, libraries, baths, gymnasia and all the facilities that science and industry had devised. M. Caumeau, M. Dalle, and other speakers demanded the better inspection not merely of dwellings, but of offices and workshops. They urged that private sanitary committees should be appointed to stimulate the action of public bodies, and that the municipal councils should have the legal power of destroying unwholesome and condemned dwellings.

The Congress now proceeded to discuss the fourth and last question, the Hygiene of the Factory, Workshop, &c. M. Dalle was reporter on this question. A report had been received from the Fargean district, dealing with the kilns in which bricks are baked. Here men, almost naked and covered with only a wet cloth, worked in a temperature of 70° centigrade. Sixty per cent. died prematurely from chest complaints and from the asphyxia caused by breathing the carbonic acid gas which was produced by the clays of Vaugirard. These men earned only fourpence per hour. The report concluded in favour of limiting the hours of labour and of constructing kilns of a less dangerous description.

The saddle-makers reported on the bad effect on health and eyesight of the numerous underground workshops existing in their trade. Women were also made to work such heavy sewing-machines that their health generally failed them when they reached the age of thirty. The Academy of Cooks sent in a report dealing with the foul air in underground kitchens, which were generally situated close to untrapped drains. They had petitioned the authorities, but all to no purpose. Cooks had sometimes to remain fifteen hours in kitchens where the temperature varied from 55° C. to 68° C. The metal polishers described how they were poisoned by the effluvia of cyanide of potassium. The Versailles bakers demanded that the law should prohibit the existence of closets inside bakehouses and should see that bakehouses were properly ventilated. The river bargemen and the crews of tug boats reported on the terrible condition of the stokeholes in these little river steamers; the temperature rarely fell below 55° C. The State match-makers reported upon the bad ventilation of their factories, and the tobacco manufacturers made a similar complaint. The printers and compositors denounced the unwholesomeness of their workshops. The house decorators wanted a law compelling the use of zinc instead of lead for making paint. They related that though there were police decrees to enforce proper precautions for the security of scaffolds outside houses in the streets these decrees did not apply to scaffolds erected in back yards and within houses. The tanners and leather-dressers wanted the abolition of the use of picrate and the employment of lime instead. The gas-workers demanded the inspection of the places where they worked and that baths should be attached to all gasworks. All the trades demanded that proper watercloseets should be provided instead of the insanitary untrapped and unflushed closets that now exist. Though there was so much to be said on this fourth question the discussion had to be cut short as the time had now arrived to put the resolutions before the closing of the Congress. These resolutions were all carried unanimously, but they would not be considered as resolutions in England: they were more like essays on the various subjects, and would, taken altogether, form a good stout pamphlet. On the first question (Food Supply) the resolutions were comparatively brief; they set forth the conflict of interest between the tradesman and the consumer, and the imperative necessity of providing the population with wholesome food. This end it was considered would be best secured by establishing municipal bakeries, butchers' shops &c., and by the amendment of the law on adulteration so that food in the course of preparation might be seized, and the premises not only of the retailer, but of all middlemen and manufacturers concerned might be subjected to inspection and the articles seized analysed.

On the second question, the Hygiene of Infancy, the resolution had a preamble to the effect that infants had a right to thorough "integral" protection, which at present was not given to either woman or child, yet horticulturists gave such protection to plants under their care. Was not the infant a young plant in the hands of society? Women should be prevented from working beyond their strength during the period of gestation. The Roussel Law of Dec. 20th, 1874, was the first attempt to protect infants; and though this had done much good, still there were more deaths in the course of a year from the use of the long-tubed bottle than there had been soldiers killed in the biggest battle. Therefore the resolution concluded that laws should prevent nightwork and overwork for women; and their employment during the more advanced periods of gestation should be prohibited; no mothers capable of suckling their children ought to be allowed to hire wet nurses. The sale of long-tube bottles should be rendered illegal. Maternities ought to be established, where mothers need not give their names and where they could remain and nurse their children till the latter were two months old. The convent asylums ought to be placed under the common law. Women who hired wet nurses should be made to pay a tax of £8, and every measure possible should be taken to compel mothers to suckle their own children.

On the third question, the Hygiene of the Worker's Home, the resolution condemned barrack-like artisans' dwellings, demanded strict legal enactments for the enforcement of proper drainage; trapped and flushed closets; municipal baths and washhouses; the creation of a Ministry of Public Health; the obligatory instead of optional appointment of sanitary committees in all the communes of France; the disregard of sanitary laws to be punished by imprisonment as well as fines; the right of sanitary inspection at all hours, inspectors to take the initiative and not to wait till they receive complaints, such inspection to include factories and workshops; municipalities to be prevented from alienating communal land, but to build upon such land model dwellings; untenanted property to be taxed as heavily as tenanted property; new sanitary laws for the building of new houses and the reform of old houses, giving strong compulsory powers to the municipalities.

The resolution on the fourth question was of great length and took about half an hour to read. It is impossible even to summarise such a resolution. It went into the detail of the grievances of a great variety of trades. The resolution suggested that four sanitary services might be organised to deal with the four phases of sanitation discussed at the Congress; that a Ministry of Public Health should be

created to study and prepare sanitary laws and establish technical schools of practical hygiene; that committees of inspection &c. should have as members some representatives of the class that suffers most and no representatives of the class that benefits by the infliction of such suffering; that the existing law for the election of working miners as inspectors of mines should be extended to all other trades and manufactories; places where work is done should be roofed, staircases washed once a month, concrete floors provided where organic matter is used, these floors to be frequently washed with disinfectants; walls painted with zinc paint; one closet for every ten workers; separate closets for females; all closets to be well trapped and flushed; each worker should have twenty-five cubic metres of space allowed him and there should not be more than fifty workers in one workshop; all workshops should receive direct light from the sun and underground workshops should be abolished; powerful mechanical ventilation should be provided where there is metallic dust and other dangerous dust or poisonous gases; there should be dining-rooms separated from the workshops &c.; a good water-supply on the premises; work in tunnels and places subject to malaria should be stopped during the two most dangerous months of the year; efficient means of escape in case of fire; ambulances and medical attendance in case of accident should be supplied, &c. To enforce all these and many other demands fines and penalties of all sorts were proposed. It was impossible for the Congress to discuss all these details, but with full confidence in the reporters these four lengthy resolutions were each in turn, as already mentioned, adopted unanimously. Then the Congress reaffirmed the resolutions carried at the great international labour congresses of Paris, London and Brussels in favour of international legislation on the hours of labour, unwholesome industries &c.

Finally, M. André Gély rose to close the Congress. The Congress, he said, had exhausted its programme All workers would be grateful for what had been accomplished. They had made popular questions which in France had previously been known only to men of science. The reports presented to the four commissions on the four questions proved the interest which had been awakened among the working classes. These reports were very carefully drawn up and were full of facts and figures. They showed how the workers had realised the necessity of health and consequently of sanitary legislation. In the name of the Organising Committee he returned thanks and complimented the Congress on the admirable order and unanimity which had been maintained throughout.

The Congress then broke up amid cheers. During the week the delegates visited the sewers, the catacombs, the municipal laboratory, the disinfecting station, and other places of interest.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Visit of H.R.H. the Duke of Connaught.

ALTHOUGH the main object of the visit of the Duke of Connaught and Strathearn to this city was the inauguration of the water-supply from Lake Vyrnwy, his Royal Highness made a pleasing addition to the programme by volunteering to visit the Royal Southern Hospital and Sefton Park. Both of these were opened some years ago by the Duke, and his recollection of the double event was so pleasing that he wished to see again the hospital which has, since it was opened by him, been the means of relieving so many of those injured in the daily battle of life incidental to such a city as this and treated in a hospital situated near the southern docks and other localities whence accidents and urgent cases come. The park, moreover, has afforded healthful recreation to all the residents of that and other portions of the city, to rich and poor alike. The inauguration of the water-supply was successfully accomplished and the Duke received a most hearty welcome.

Election of Surgeon to the Northern Hospital.

The trustees of the Northern Hospital were the first to change the mode of election of honorary medical officers from the general body of trustees to an elective committee on the lines suggested by a subcommittee of the medical institution and confirmed by the members generally. This elective committee met for the first time on the 15th inst. to elect a surgeon in the place of Mr. George Gibson Hamilton, recently elected to the office of assistant surgeon to the Royal Infirmary; out of a total of one hundred and twenty members sixty-six attended. Mr. Arthur Henry Wilson, surgeon to the Stanley Hospital, was elected. The experience of the two recent elections under this new system has been very satisfactory and its superiority over the former mode has been generally admitted.

Copper and Green Peas.

Last week a retail dealer was charged with an offence against the Food and Drugs Act in having sold peas adulterated with sulphate of copper in such a quantity as to be injurious to the health of the consumer. A tin of peas, weighing 1 lb., was purchased for 10½*d.* by an official of the Health Department. Mr. Williams, the assistant county analyst, stated that experiments had proved to him that the copper was capable of being absorbed into the system, and that in the case before the court there were two grains and a half of copper in the tin. Dr. Campbell Brown, the city analyst, stated that the sulphate of copper did not preserve the natural pigment of fresh green peas. He would hardly say the coloured peas were injurious to health in the ordinary sense of the phrase, but the effect of the sulphate of copper in the proportion shown in this case with an ordinary amount of peas was astringent and the effect would by no means pass off after the food had left the stomach. Stale peas boiled with sulphate took the colour of fresh peas. The peas sold by the defendant would injure the digestive powers of people with weak stomachs. Dr. Hope, assistant medical officer of health for Liverpool, said that no more than a grain and a half of copper was necessary to every pound of peas. Mr. Stewart, the stipendiary magistrate, was satisfied that the quantity of copper used was injurious to health. He thought the wholesale manufacturers were more responsible than the tradesmen, who trusted to them. The latter should protect themselves by getting a written guarantee from the manufacturers that there were no injurious ingredients in the goods they supplied. Under the circumstances he would not impose a larger fine than 30*s.*, with all the costs. A second dealer was similarly fined for a like offence.

Liverpool, July 19th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The Heath Chair of Comparative Pathology at Newcastle.

MR. F. PAGE, surgeon to the Royal Infirmary here, in a reprint of his lecture last session on Parasites, makes a timely reference to the generosity of a respected citizen of Newcastle, Mr. Clement Stephenson, F.R.C.V.S., whereby the College of Medicine has been enabled to establish within its precincts a laboratory thoroughly equipped with the most modern appliances for the study of the many interesting problems constantly arising in this department of study. Mr. Page goes on to say that Professor G. Y. Heath, the late distinguished and able president of the College of Medicine, deemed the study of disease as it affects the whole animal kingdom of such paramount importance to the community that he bequeathed the sum of £5000 for the chair of Comparative Pathology and its endowment. This professorship will be called after the name of its far-seeing and generous founder. In connexion with Dr. Heath's bequest I hear that he has also left his museum of pathological preparations and the bulk of his valuable medical library to the Newcastle College of Medicine.

The Newall Telescope at Cambridge.

Although we were sorry to lose the late Mr. Newall's magnificent telescope from Gateshead, where the climatic conditions were not favourable, we are, on the other hand, pleased to know that it has got a proper astronomical home, so to speak, at Cambridge. We hear that it has been set up there on a conical frustum of special concrete nine feet six inches deep, on a circular base ten feet in diameter. The removal from Gateshead would cost, together with the necessary clockwork and machinery, about £1500, towards which the Sheepshanks Fund has contributed £1000, so that the University chest has been only asked for about £168.

Centenarian Voters.

Of centenarian voters I (imitating the caution shown in an annotation in THE LANCET of last week) "can only speak at present in the singular number," but I can vouch for the fact

that Mr. Thomas Ironsides, farmer, of Kibblesworth, near Gateshead, voted last week in his district. Mr. Ironsides is in his 102nd year, and until I hear to the contrary from your numerous and well-informed correspondents I claim him to be the oldest voter in the country, and challenge them to produce an older one.

Sunderland.

Sunderland is about to lose its able medical officer, who has effected so many sanitary reforms for the borough in his long tenure, Mr. Alfred E. Harris having received the post of health officer to the metropolitan district of Islington. While we are sorry to lose Mr. Harris we are glad to hear of his promotion. Mr. Harris has been long esteemed in Sunderland as a professional brother, as a sanitarian and as a citizen. It is reported that the Sunderland Corporation contemplate pulling down two areas of insanitary property; the cost in the first case is £5750 and in the second £9600. Some 300 tenants will be "disturbed," it is said, which is a mild way of stating that some poor people will be rendered homeless; unless some equivalent provision is made for them there is certain to be dangerous overcrowding.—An inquest was held the other day on the body of a woman who died at her residence at Sunderland from the effects of a paraffin lamp explosion.—At the annual meeting of the North of England Branch of the British Medical Association, held at Sunderland on last Tuesday, Dr. James Murphy, President, in the chair, it was resolved to form a representative committee to give a cordial invitation to the British Medical Association to hold their next meeting (1893) in Newcastle-on-Tyne; and, in case of its acceptance, complete arrangements were made for the purpose.

Durham City.

At the late assizes held at Durham the Judge drew attention to the series of foul odours experienced in the court, and had more than once to apply his handkerchief to his nose to mitigate the smells. He asked who was responsible for the state of the court and was told it was the High Sheriff. The Judge replied that as that official and the Under Sheriff were away courting votes he could not send them to prison; but if the atmosphere of the court was not made purer the assizes would have to be removed another time to Newcastle. His Lordship instanced the case of Leeds, where the assizes were on the point of removal to York until the Corporation of Leeds awakened to the necessity of doing something. It seems that by a liberal supply of disinfectants the business of the court did proceed. Well, Durham is a slow place, but if it does not mend its unsanitary ways it will get a harder name.

Newcastle-on-Tyne, July 21st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Close of the Summer Session in Edinburgh.

MOST of the classes in the Edinburgh Extra-Mural School of Medicine closed last Friday; some of the practical classes are, however, still going on and the classes in the University do not finish until Friday of this week.

Medical Examinations in Edinburgh.

The second professional examination in the University commenced on Monday and the first professional will begin on Monday of next week, after the close of the session. The various examinations for the Scottish triple qualification which have been going on for the past fortnight have almost finished; there has been a large number of candidates and a considerable proportion of rejections.

Scottish Universities Commission.

The Commission is still taking evidence on the question of materia medica. Last week Professors Hamilton of Aberdeen and Greenfield of Edinburgh gave evidence on the relative positions of materia medica and pathology in the curriculum.

Royal Edinburgh Hospital for Sick Children.

The directors at their meeting last week appointed Drs. W. Ford Robertson and W. B. Drummond to be resident physicians to this hospital for six months from Nov. 1st. These gentlemen are at present resident physicians in the Royal Infirmary.

The Health of Edinburgh.

The mortality last week was 68, making the death-rate 13 per 1000. Diseases of the chest caused 9 deaths and zymotic diseases 6. The intimations for the week were—typhoid fever 6, diphtheria 5, scarlet fever 38, and measles 27.

Health of Leith.

The death-rate of this burgh last week was 20 per 1000. Of the total of 27 deaths 15 were of children under five years of age and 10 under one year. There were 15 new cases of scarlet fever reported.

Health of Aberdeen.

For the month of June Dr. Matthew Hay reports that scarlet fever is again on the increase, 70 cases with no deaths having been reported. Since February 1st 230 cases have occurred, with only 2 deaths, or a mortality of less than 1 per cent. Whooping-cough, although less prevalent, is far from having been eradicated, and it compares very unfavourably with scarlet fever in respect of mortality. An outbreak of measles has occurred in the fisher quarter, Torry, and several cases of concealment of the disease have come to the knowledge of the Public Health Department. The outbreak is, however, almost at an end, and the other quarters of the town have escaped. Diphtheria is accountable for 3 deaths out of 5 cases reported. Four cases of typhoid fever and 3 fatal cases of puerperal fever have been notified. Although no cases of typhus fever were notified in May and it was thought that it had again disappeared from the town, a small group of cases has been discovered during the present month in a new tenement in an old quarter of the town. Not only the infected members, but the whole family have been removed to the city hospital for observation and treatment.

Aberdeen University: Close of the Summer Session at Marischal College.

During the past fortnight the examinations for medical and surgical degrees have been held, the summer session having ended on July 8th. The number of candidates is about the average. The candidates for the D.P.H. are also undergoing examination, and last week there were about a dozen candidates for the certificate of the Medico-Psychological Society. The "capping" will probably take place on Tuesday, July 26th.

Presentation to Dr. Mackenzie Booth.

The officers and men of the 7th Company Volunteer Medical Staff Corps met on July 18th at headquarters and presented Surgeon-Captain J. M. Booth with a handsome silver épergne as a marriage gift. Surgeon-Captain MacGregor made the presentation in highly felicitous terms and Surgeon-Captain Booth made an appropriate response.

Proposed Hospital for Peterhead.

At a recent meeting of the Peterhead Town Council a discussion took place on the advisability of erecting a hospital for the town or for the town and district. Except for one dissentient, who thought they should not adopt the Notification Act until compelled so to do by Parliament and who thought a town with a death-rate of only 14·5 per 1000 was in no need of a hospital, the members of the board were enthusiastic in their approval of the scheme.

July 16th.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

National Hospital for Consumption.

UP to the middle of July the total collected or promised for the proposed Hospital for Consumption amounted to the handsome sum of £9420 14*s.* 1*d.* No site has yet been selected, but there is little doubt that the promoters will ultimately select some place adjacent to Dublin.

Cholera Precautions.

In consequence of the prevalence of this dread disease in certain parts of France and countries bordering on the Black Sea the Local Government Board have issued orders prohibiting the importation into Ireland of rags from these countries.

Longevity in Ireland.

For the March quarter the number of centenarians in the mortality returns was something unusual. Twenty-eight deaths were registered of persons whose ages amounted to 100 years and upwards. Of these, seven were 100 years of age, two 101, four 102, two 103, six 104, two 105, two 106, one 107 and one 109 years. The latter died in the

Macroom Workhouse, where she had been an inmate since its establishment.

Board of Superintendence of Dublin Hospitals: Annual Report.

The thirty-fourth annual report for the year ended March 31st last, on the condition and management of the nine Dublin hospitals which receive Parliamentary grants, has been issued. As regards the Lock Hospital the Board again refer to the faulty condition of the laundry, which is located in the basement immediately beneath an occupied ward. The only exercise ground available for the patients is a small yard with bare walls—a confined, shut-in place and totally unfit for its purpose. Being, however, situated in the centre of the city, no better recreation ground can be provided; but if the institution were removed to the suburbs various necessary improvements could be carried out. The Meath Hospital, as usual, is efficiently administered, and reference is made to a new department erected during the year, partly external to the main building, for receiving and dressing accident cases. This has been a great improvement, as before its erection extern accident cases had to be brought into the hospital, which at night time was calculated to disturb the patients in the wards. Additional wards have been opened in Cork-street Fever Hospital owing to the greater variety of infectious diseases now admitted since the Infectious Diseases Notification Act came into force. The mortality was 9·27 per cent. A suitably furnished children's ward has been added to the recent improvements in the House of Industry Hospitals, and plans have been obtained for converting the present chapel into a small-pox hospital which will be capable of accommodating twenty-four beds, the sanitary arrangements being isolated from the wards. The Rotunda Lying-in Hospital enjoys a well-deserved reputation and the renown of its clinical teaching continues to attract a large number of students. A ward on each storey is allotted to patients in actual labour, the floors being laid down with concrete, which prevents their being saturated with organic matter. Particular attention has been given to the dietary of the pupil nurses, and the board-room is used by them as a dining hall until the proposed new building is completed. The mortality of the labour patients was at the extremely low rate of 0·48 per cent. The drainage system of the Coombe Lying-in Hospital was very defective and a thorough overhauling has taken place, new pipes being laid down in place of the old sewers and the waterclosets replaced by modern patterns. Four deaths from septicæmia occurred, and the mortality of labour cases was 1·82 per cent., or eight deaths in 439 cases. The structural defects of St. Mark's Ophthalmic Hospital and the inadequate space for the inmates limit its usefulness, while the imperfect ventilation of some of the wards must prove injurious to the patients and often hazard the success of operations. The proposed amalgamation of St. Mark's with the National Eye and Ear Infirmary has made no progress and a considerable time must elapse before any definite steps are taken. The average annual cost per bed for maintenance in these nine hospitals varied from £15 11*s.* 6¾*d.* in St. Mark's to £29 2*s.* 7¾*d.* in Cork-street Fever Hospital; while a much larger discrepancy is observable in the average annual cost per bed for maintenance and for establishment charges—for example, in the Hospital for Incurables it amounted to £31 10*s.* 2*d.* and in Cork-street Fever Hospital to no less than £90 19*s.* 5¾*d.* The Government grants amount to £15,722 15*s.* 9*d.*, of which the House of Industry Hospitals obtain £7472 15*s.* 9*d.*, the Westmoreland Lock Hospital £2600, Cork-street Fever Hospital £2500, smaller sums being allocated to the Meath, Steevens', Rotunda Hospitals, &c.

The late Mr. Colles.

The committee of the National Eye and Ear Infirmary at a recent meeting passed the following:—"That the committee have learned with deep regret of the death of Mr. William Colles, for many years consulting surgeon to this hospital, and desire to record their sincere sympathy in their bereavement with Mrs. Colles and her family."

Appointment of Surgeon to Her Majesty in Ireland.

I hear with considerable satisfaction that his Excellency the Lord-Lieutenant has recommended Mr. Philip Crampton Smyly, the well-known Dublin surgeon, for appointment as surgeon to the Queen in room of the late Mr. Colles. I specially mentioned his name some weeks ago as Mr. Colles' probable successor, and have only now to add that the appointment is one which will be regarded as eminently satisfactory.

Sir George Porter, Bart., Regius Professor of Surgery in the University of Dublin, has been elected consulting surgeon to Sir P. Dun's Hospital, in the room of the late Mr. William Colles.

The returns of pauperism for the March quarter, compared with the corresponding quarter of last year, show a slight increase in the average number of workhouse inmates on Saturdays during the quarter, but a decrease of 2337, or 3·6 per cent., in the average number of persons on out-door relief.

July 19th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

A New Sterilising Filter.

MUCH misconception prevails amongst the public concerning the efficacy of filters, most people believing that, provided it be passed through any apparatus labelled a filter in the shops, the most foully contaminated water is rendered harmless for the purposes of consumption. Hygienists know, on the contrary, that natural filters or even the passage of water through a layer of sand does not enable water companies to guarantee the purity of the product distributed by them to their customers. The discovery of a new and effective method for the sterilisation of water supplied to towns by those well-known bacteriologists MM. Babès was announced by Professor Cornil on the 12th inst. to the Académie de Médecine. The principle underlying the method is the precipitation by means of appropriate substances of the micro-organisms whose presence in drinking water is so undesirable. The water is made to percolate vast reservoirs containing a thick layer of iron filings, through which there is passed at the same time a current of air. The percolated product is collected in large cemented tanks, from which it is decanted for use at the expiration of twenty-four hours. The efficiency of the apparatus is apparent from the fact that water which previously contained from 1200 to 1300 germs per cubic centimetre yielded, after decanting, only a proportion of 0·20. An additional advantage possessed by this filtered and practically sterilised water is the presence in it of CO_2 (from the decomposition of the $FeCO_3$), which confers on it a slightly acid taste and renders it sparkling and refreshing without any chalybeate flavour, iron being conspicuous by its absence. A modification of this wholesale method is recommended for household purposes. A zinc or glass vessel, with a capacity of from ten to forty litres, and standing on a wooden pedestal, is pierced near its base with an orifice into which is introduced a rubber cork traversed by a glass tube provided with a tap. The reservoir having been filled with water, one and a half grammes of powdered alum are added for every ten litres and the contents are well shaken, either manually or by means of a rotatory mechanism, the vessel being finally covered with a well-fitting tin lid. After a lapse of eighteen or twenty-four hours the water may safely be used, it being, however, a good precaution to first allow about half a litre to run away. Besides the alum, alternative sterilising substances such as sulphate of iron or prepared chalk may be utilised. Practical sanitarians will readily appreciate the importance of the Babès method, controlled as it is by rigid bacteriological analysis which amply confirms its very great value.

Self-mutilations by General Paralytics.

Accusations, mostly false, brought against attendants, of ill-treatment of patients affected with that too common variety of mental alienation, general paralysis of the insane, are familiar to every practitioner. It is, therefore, a matter of importance to be fully aware of the injuries which such patients are wont to inflict upon themselves. M. Vallon observes (Société de Médecine Légale, 11th inst.) that certain general paralytics are in a constant state of agitation, their upper and lower extremities never being still. Others occupy their whole time in alternately buttoning and unbuttoning their clothes, dressing and undressing, while others, again, tear their clothing or the sheets. These latter patients may, especially when totally confined to their beds, inflict on themselves more or less extensive injuries without the attendants knowing anything about it. M. Vallon gives a few instances of such mutilations produced by constantly recurring movements of limited range. One sufferer had a long deep wound of the thigh caused by the nails of the right hand in its

incessant to-and-fro movements. In another the testes had been similarly laid bare, while yet another had lost part of the nose through the same mechanism. Constant grinding of the teeth is common in this class of patients, entailing the ultimate wearing down of those masticatory instruments. A habit of continually sucking either *à ride* or the sheets or pillows is also met with. One of M. Vallon's patients was suffocated by a poultice, which, originally applied to a wound, the defunct paralytic had sucked almost in its entirety. Another curious case is that of a man in whom enormous swelling, followed by gangrene of the lower lip, had resulted from this constant sucking. These few examples suffice to emphasise the necessity of closely watching general paralytics who, arrived at the terminal stage of their disease, may, during the long hours of the day and especially the night, succeed in damaging themselves very seriously.

Suggestion as a Remedy for the Morphia Habit.

At the annual meeting of the Société d'Hypnologie held in Paris on the 11th inst., M. Bérillon stated as the result of his experience in the treatment of six cases that complete demorphinisation can, in the majority of instances, be obtained by means of hypnotic suggestion without isolation in a special establishment. The difficulty of attaining this end is not, as might *a priori* be imagined, proportional to the amount of the daily dose of the drug to which the morphinomaniac had accustomed himself. Old offenders who have been in the habit of administering to themselves considerable doses are sometimes, according to M. Bérillon, more easily curable than those accustomed to smaller doses. In those exceptional cases where isolation is necessary recovery is more rapid and easy when psycho-therapeutics are had recourse to, such means diminishing notably the pain and physical and mental discomforts entailed by abstinence from the poison. The average duration of the suggestion treatment is one month. The supply of morphia should be gradually diminished. When this gradual reduction has brought the daily dose down to a few centigrammes complete suppression should be insisted on. The suggestion *séances* should be more frequently repeated during the week following complete suppression. The prognosis after cure by hypnotic suggestion is much better than when abstinence from morphine has been brought about by other methods, it being easy to inspire the patient with disgust for the habit by psychical means.

The Consumption of Tarlatan in the Paris Hospitals.

Calico bandages have long ago become things of the past in the surgical wards of Paris hospitals, that stuff having been dethroned by tarlatan. An idea of the expense entailed by these liberally applied tarlatan bandages may be gathered from the fact that there were used in the Paris hospitals during the year 1890 no less than 1600 kilometres, or 1000 miles, of this material. In 1891 the mileage had reached 1188, an amount which cost 135,000 fr., or £5600.

Cholera in Paris.

From the means of information within my reach I gather that the cholera epidemic remains stationary and exhibits no tendency to extension, at any rate within the fortifications. On Friday last there occurred at Aubervilliers three deaths and at Clichy, in a filthy house inhabited by rag-pickers, two persons died. Several non-fatal cases occurred at Gennevilliers. From the 14th to the morning of the 16th eighteen deaths occurred in the northern suburbs, comprising principally St. Denis, St. Ouen and Aubervilliers. No new case was reported in Paris itself on Saturday, nor did any suspicious death occur on Sunday. Ten fatal cases were reported from the above-mentioned suburbs and one from Clichy. On Sunday Aubervilliers was visited by Drs. Proust and Dujardin-Beaumetz, their colleague on the Council d'Hygiéne, Dr. Léon Colin, repairing to St. Denis. The special Sanitary Commission, accompanied by the Prefect of Police, inspected the rag-pickers' house at Clichy mentioned above and ordered its immediate evacuation. From Clichy the Commission extended its peregrinations to Levallois-Perret and Asnières. News received this morning at the Prefecture of Police announced an improvement in the sanitary situation in the north-west suburbs, only two new cases being reported. At St. Denis Hospital forty-nine cases have up to the present been under treatment, a third of whom are cured, the rest having either died or being convalescent. At St. Ouen the distribution of filtered water produced an immediate improvement. Here the schools have all been provided with filters. Things are better also at Aubervilliers, where filters will be shortly installed. An old disused artesian well has been repaired and is extensively patronised. There is no case at Levallois-Perret, but the malady reigns at Asnières. Officially the disease is still dubbed *épidémie cholériforme*.

Paris, July 20th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Sixty-fifth Meeting of the Society of German Naturalist and Medical Men.

THE sixty-fifth meeting of the Society of German Naturalists and Medical Men will be held at Nuremberg in the middle of September. The programme is as follows:—Sept. 12: A general meeting in the hall of the Gymnastic Club; a lecture by Professor His of Leipsic on the Structure of the Nervous System; a lecture by Professor Pfeffer of Leipsic on the Sensibility of Plants; a lecture by Professor Hensen of Kiel on the Expedition of the Humboldt Trust; at 8 P.M. a social gathering in the restaurant of the Stadtpark, at the invitation of the municipality of Nuremberg. Sept. 13th: Sectional meetings; excursions; at 8 P.M. a meeting in the rooms of the Museum Society. Sept. 14th: A general meeting in the Gymnastic Hall; a lecture by Professor von Helmholtz on Permanent Forms of Motion and Apparent Substances; a lecture by Professor Strümpell of Erlangen on the Alcohol Question; a lecture by Professor Ziegler of Freiburg, on the Nature and Importance of Inflammation; at 5 P.M. a banquet in the Gasthof zum Strauss. Sept. 15th: Sectional meetings; at 8 P.M. a ball in the Gasthof zum Strauss. Sept. 16th: A general meeting; a lecture by Professor Günther of Munich on Volcanic Phenomena regarded from the Physical and Geographical Points of View; a lecture by Professor Hüeppe of Prague on the Etiology of Infectious Diseases and their Relations to the Development of the Causal Problem; at 3 P.M. an inspection of industrial establishments; at 8 P.M. a social gathering in the festally illuminated park of the Rosenau Society. Sept. 17th: An excursion to Rothenburg. A ladies' committee will show the ladies the sights of the city and provide for their entertainment during the meetings.

Dr. Behring on Blood-serum Therapeutics.

Dr. Behring of Koch's Institute for Infectious Diseases, well known for his studies on immunity against traumatic tetanus and diphtheria, has published a treatise on the practical aims of blood-serum therapeutics and the methods of producing immunity, in order to obtain medicinal serum. He endeavours to prove that the blood-serum of animals rendered immune by treatment with cultivations acted on by trichloride of iodine cures other animals infected by the disease and renders healthy ones immune. He has applied this method with success against traumatic tetanus and diphtheria, and now states that one of his fellow-labourers has been equally successful in diseases caused by streptococci. All these results have been obtained by experiments on animals, but Behring's final aim is to find a new means of combating diphtheria, tetanus, &c., in the human body, and he indicates the way to that great end, admitting, however, that it is a difficult and especially a very costly one—too costly for individual investigators or even institutions to enter on without ample pecuniary aid. In the second part of his treatise he criticises other methods of producing immunity. The treatise is published by Thieme of Leipzig, and its title is "Die praktischen Ziele der Blutserum-Therapie und die Immunisirungs methoden zum Zweck der Gewinnung von Heilserum."

The Cholera.

In the semi-official *Norddeutsche Allgemeine Zeitung* (*North German General Gazette*) of the 14th inst. is the following paragraph:—"The information received here from Asia and European Russia leaves no room for doubt that we must be prepared for a further spread of cholera from the East. But now news has arrived from the West which indicates the possibility of an outbreak of that disease beyond our western frontier also. Public opinion in Germany has not yet been rendered uneasy by these statements, and this is right, for the population may rest assured—just as on the occasion of the last epidemics, which fortunately affected Germany little, if at all—in the consciousness that the Imperial Government and the authorities in the frontier districts of the individual states of the Empire are

following the course of the pestilence with attention, and have prepared for all the measures that will be necessary should the disease appear in our vicinity, though it is hoped it will not."

Dr. Otto Völker.

Dr. Otto Völker, head of the surgical department of the Ducal Hospital at Brunswick, died suddenly of heart disease at the bedside of a patient at Harzburg on the 10th instant, aged forty-nine. He was the author of essays on the Diseases of the Lateral Cervical Region, on Cartilaginous and Osseous Loose Bodies in Joints, &c., and contributed largely to the *Zeitschrift für Chirurgie* and to Virchow and Hirsch's *Jahresbericht über die Leistungen in der Medizin.*

Miscellaneous Items.

Professor Henoch celebrated his seventy-second birthday, which was also the fiftieth anniversary of his graduation, on the 16th inst. The Emperor bestowed on him the Order of the Red Eagle of the Second Class.

At the instance of Professor Förster, Rector of Berlin University, a meeting of professors and students will be held on the 22nd inst. in the Philharmonic Hall, to do honour to the memory of Professor von Hofmann.

A monument of the late Professor von Nussbaum was unveiled at Munich on the 16th inst., prince and people uniting to do him honour.

Professor Hilger of Erlangen has been appointed to succeed Professor Buchner (who retires at the end of this session) as professor of pharmaceutical chemistry and director of the Pharmaceutical Institute at Munich. Buchner has filled the chair in question since 1852.

The number of summer visitors at Ems in the first days after the beginning of the Prussian school holidays (from the 9th to the 12th inst.) was 9290; at Marienbad 8461; at Franzensbad 4184; at Heligoland 2390; at Neundorf 971; and at Sulza 895.

Berlin, July 18th.

MEDICAL TRIAL.

HIGH COURT OF JUSTICE, QUEEN'S BENCH DIVISION.

MACDONALD *v.* TURNER.

THE PURCHASE OF A MEDICAL PRACTICE.

THE case of Macdonald *v.* Turner was heard in the Queen's Bench Division on July 19th before Mr. Justice Wright. Both parties to the action are medical men, who entered into communication in consequence of an advertisement which appeared in our columns of a medical practice which was represented as returning an income of about £600 a year. Plaintiff asserted that after a three months' trial, during which time he used every endeavour to make the business a success, it had only produced the sum of £20, and for that period he paid in respect of his tenancy £28. Defendant's avowed reason for giving up the practice was that he had disease of the hip, which would require an operation, and that the practice was suffering in consequence of his inability to attend to it. In the course of conversation he told plaintiff that he could not guarantee figures, but he gave him every opportunity of inspecting the books. Mr. Justice Wright said he did not think there had been any wilful misrepresentation, though no doubt there had been exaggeration. Mr. Hopkinson submitted that even innocent misrepresentation would entitle the plaintiff to recover. Mr. Rowlandson stated that he had evidence that there was no misrepresentation of any kind whatever. Mr. Justice Wright said that he would hear that question of law argued on Thursday next.

FIRST AID.—The Duchess of Albany distributed on the 13th inst. the certificates gained by the most successful students of the Streatham local centre of the St. John Ambulance Association. During the winter months one nursing class and six first-aid classes were held and were attended by twenty-seven men and 125 women, to seventy-seven of whom certificates of proficiency were granted. Of the ladies, sixteen gained certificates for nursing and fifty-five for first aid. Ten certificates for first aid were awarded to men.

Medical News.

THE ITALIAN HOSPITAL IN LONDON.—By the permission of the committee of management of "Venice" at Olympia, a morning performance of that entertainment was given on Wednesday last in aid of the funds of the Italian Hospital in London.

A COTTAGE HOSPITAL FOR DINAS POWIS.—It is stated that a building situated near the railway station has been taken for the purposes of a cottage hospital for Dinas Powis and that a lady resident in the village had consented to assume the charge of the institution when opened.

NEW INFIRMARY FOR ISLINGTON.—The difficulties which the Islington guardians have hitherto had to contend against for providing a new infirmary are apparently likely to be surmounted. They have just resolved to offer £17,000 for five acres of ground in Tollington-park and to erect thereon a building to provide about 800 beds at an outlay of from £80,000 to £85,000. The entire cost of the undertaking is estimated at £110,000.

FATAL LEAD POISONING AT LOW MOOR.—At an inquest held at Low Moor last week on the body of a forgeman a verdict was returned to the effect that the deceased had died from lead poisoning, epilepsy and exhaustion, and that the lead poisoning was caused by drinking water supplied to the inhabitants by the North Bierley Local Board and purchased by that board from the Bradford Corporation, such water having a solvent action upon lead.

ST. JOHN AMBULANCE ASSOCIATION.—The practical application of ambulance work finds a strong centre at Ramsgate. Through the persevering energy of the local honorary secretary, assisted by three surgeons, Messrs. Cotton, Tamplin and Berry, not only has a corps of men been formed who are frequently called for accidents and removals, but there is at the same time a small but efficient corps of some eight or twelve lady nurses who devote their time in supplying gratuitous nursing to the sick poor in their own homes. Both these corps have now been working for more than a year and are thoroughly appreciated both by the medical men and the patients. On Saturday afternoon last a pleasing function took place at the house of the honorary secretary in the presentation of a testimonial to the surgeon, Mr. Cotton, who has instructed most of the ladies' classes and is honorary surgeon to the nursing corps.

ANATOMICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—The fourth quarterly meeting of the session will be held on Tuesday, Aug. 2nd, in the Anatomical Theatre of the new buildings of the University of Edinburgh, at 4.30 P.M. Agenda:—Exhibits—Professor Sir William Turner, F.R.S.: 1. A series of Specimens. Dr. Symington: 2. (*a*) A Human Heart, with Unusual Arrangement of the Anterior Papillary Muscle; (*b*) Specimen illustrative of the Mode of Closure of the Ileo-cæcal Valve. Papers—Professor Cleland: 3. A Contribution to the Comparative Anatomy of the Ankle-joint. Dr. Birmingham: 4. (*a*) Extreme Anomaly of Heart, with History; (*b*) Spina Bifida, with Abnormality of Skull. Dr. Musgrove: 5. (*a*) The Costo-sternal Articulations; (*b*) The Bloodvessels and Lymphatics of the Retina (with lantern slides). Dr. Symington: 6. A Note on the Fascia Dentata in the Human Brain.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following prizes have recently been awarded:—Operative Surgery: Mr. G. Hamilton, 1st Prize (Gold Medal); Mr. O. W. Elsner and Mr. T. C. Perry (equal), 2nd Prize (Silver Medals); Mr. H. G. Le Fanu and Mr. F. Warren (equal), 3rd Prize (Certificates). Practical Chemistry: Mr. H. E. Eardley, 1st Prize (£3 and Medal); Mr. H. F. Conyngham, 2nd Prize (£1 and Certificate). Practical Histology: Mr. E. A. Meeke, 1st Prize (£3 and Medal); Mr. E. C. Hodgson, 2nd Prize (£1 and Certificate). Materia Medica: Mr. E. T. Moore, 1st Prize (£3 and Medal); Mr. E. A. Meeke, 2nd Prize (£1 and Certificate). Pharmacy: Mr. R. M. Hamilton, 1st Prize (£3 and Medal); Mr. H. B. S. Montgomery, 2nd Prize (£1 and Certificate). Medical Jurisprudence: Mr. T. T. O'Donnell, 1st Prize (£3 and Medal); Mr. L. F. Corbet, 2nd Prize (£1 and Certificate). The "Mayne Scholarship" of £15 has been awarded to Mr. G. Hamilton.

THE LONDON COUNTY COUNCIL AND THE WATER-SUPPLY.—At the usual meeting of the Council on Tuesday last it was agreed that, subject to an estimate being submitted to the finance committee, the Council should contribute a further sum of £250 towards the expenses of the investigations now being carried on by Dr. Percy Franklin and Professor Marshall Ward at the Royal Society into the question of the vitality of microscopic pathogenic organisms in water.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BANNATYNE, GILBERT A., M.D. Glasg., has been appointed Honorary Medical Officer to the Bath Royal United Hospital.

CARNELLEY, M., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Gotham Sanitary District of the Basford Union.

CAUDWELL, H., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Woodstock (No. 2) Sanitary District of the Woodstock Union.

CROOM, J. H., M.D., F.R.C.P., F.R.C.S. Edin., has been appointed Physician to the Edinburgh Royal Maternity and Simpson Memorial Hospital.

DRUMMOND, W. B., M.B., C.M. Edin., has been appointed Resident Physician to the Royal Edinburgh Hospital for Sick Children.

FRAZER, E. E., M.R.C.S., L.R.C.P., L.S.A., has been appointed House Surgeon to the Royal United Hospital, Bath, vice L. H. Walsh.

HARDY, C. M., M.B. Durh., B.S., has been reappointed Medical Officer of Health for the Rural Sanitary Authority, Darlington.

HARRIS, A. E., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer of Health for Islington, vice Tidy, deceased.

HILL, WALTER J., M.R.C.S., L.R.C.P., has been appointed House Surgeon to the Bristol Royal Infirmary.

INCE, W. H., Ph.D. Würzburg, has been appointed Demonstrator of Physics and Chemistry in the Medical School of St. Thomas's Hospital.

LUCAS, ALBERT, L.R.C.P. Lond., F.R.C.S., has been appointed Resident Surgical Officer, General Hospital, Birmingham, vice Holden, resigned.

MARCH, G. C., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Gosforth Sanitary District of the Whitehaven Union.

MCDONNELL, M. S., M.R.C.S., has been appointed Medical Officer for the First Sanitary District of the Southampton Incorporation.

NUTT, H., M.R.C.S., has been appointed Medical Examiner on the Society's Staff by the Equitable Life Assurance Society of the United States for the Sherborne, Dorset, District.

ORMEROD, HENRY LAWRENCE, M.R.C.S., L.R.C.P., has been appointed House Physician to the Bristol Royal Infirmary.

ROBERTSON, W. FORD, M.B., C.M. Edin., has been appointed Resident Physician to the Royal Edinburgh Hospital for Sick Children.

STREETEN, F. E., L.R.C.P. Edin., M.R.C.S., D.P.H. Irel., has been appointed Medical Officer of Health for the Rural Sanitary District of the Farringdon Union.

SYRETT, FRANK, has been appointed Resident Medical Officer to the Children's Hospital, Newcastle-on-Tyne.

VERNON, H., L.S.A., has been appointed Assistant Medical Superintendent of the Infirmary, Parish of Paddington.

WALSH, L. H., M.R.C.S., L.R.C.P., L.S.A., has been appointed Resident Medical Officer to the Royal United Hospital, Bath, vice E. H. Biddlecombe, resigned.

WATSON, J., M.B. Durh., F.R.C.S. Edin., L.R.C.P. Lond., has been appointed House Physician to the Wolverhampton and Staffordshire General Hospital.

WILLIAMS, T. O., L.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer for the Third Anglesey Sanitary District of the Bangor and Beaumaris Union.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

ANCOATS HOSPITAL, Manchester.—Senior House Surgeon. Salary £80, with board and washing.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £70, with board, residence and washing.

BURY DISPENSARY HOSPITAL, Bury, Lancashire. — Senior House Surgeon. Salary £100 per annum, with board, residence and attendance.

DEACONESSES' INSTITUTION AND HOSPITAL, Tottenham.—Resident House Surgeon for one year. Salary £90 per annum.

GENERAL HOSPITAL, Birmingham.—Two Assistant House Surgeons for six months. Residence, board and washing provided.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway, N.—House Surgeon. Salary £60 per annum, with board and lodging in the hospital.

HORTON INFIRMARY, Banbury.—House Surgeon and Dispenser. Salary £60 per annum, with board and lodging.

LEEDS FRIENDLY SOCIETIES' MEDICAL ASSOCIATION.—Two Surgeons for the Bischoff House and Malton House Surgeries of this Association. Salaries £208 per annum and Midwifery fees. Good residence, drugs supplied, and rates and taxes paid. Also Assistant Surgeon. Salary to commence at £120 and Midwifery fees. (Apply to Mr. C. H. Wilson, 8, South Parade, Leeds.)

LINCOLN ODDFELLOWS' MEDICAL INSTITUTE.—A qualified Assistant. Salary £120 a year (out-door). (Apply to the Secretary, 12, North Parade, Lincoln.)

LIVERPOOL STANLEY HOSPITAL.—Honorary Physician.

LIVERPOOL STANLEY HOSPITAL.—Honorary Surgeon.

NOTTINGHAM BOROUGH ASYLUM.—Resident Clinical Assistant for six months. Board and residence provided.

ROYAL PORTSMOUTH, PORTSEA, AND GOSPORT HOSPITAL, Portsea.—Assistant House Surgeon for six months. Board, residence and washing, and an honorarium of £15 15s. at expiration of term of office.

ROYAL SOUTH HANTS INFIRMARY, Southampton.—Assistant House Surgeon for six months. Board, residence and washing provided, and an honorarium of £10 10s., conditionally, at expiration of term of office.

ST. LUKE'S HOSPITAL.—Resident Clinical Assistant for six months, with board and residence.

SHEFFIELD PUBLIC HOSPITAL AND DISPENSARY.—Senior Assistant House Surgeon. Salary £65 per annum, with board, lodging and washing.

STOURPORT MEDICAL AID ASSOCIATION.—Assistant (out-door). (Apply to Mr. John Bourne, Stourport.)

WEST KENT GENERAL HOSPITAL, Maidstone.—House Surgeon. Salary £150 per annum, with furnished apartments, coals, gas and attendance in the hospital.

Births, Marriages, and Deaths.

BIRTHS.

MAURICE.—On July 17th, at Friar-street, Reading, the wife of William James Maurice, M.A., M.B. Oxon., of a son.

O'REILLY.—On July 14th, at Thurnby, Guildford, the wife of Surgeon-Major J. O'Reilly, M.B., of a daughter.

PORTER.—On July 19th, at Helmsley, Yorkshire, the wife of J. Francis Porter, M.D., Coroner for County of Yorkshire, of a son.

PURVES.—On July 15th, at Hardwicke Cottage, The Common, Wimbledon, the wife of W. Laidlaw Purves, M.D., of a son.

WELLS.—On July 12th, at Belsize-park, the wife of Poulett Wells, M.B., of a son.

MARRIAGES.

GOODSALL—WRIGHT.—On July 19th, at Holy Trinity Church, Lamorbey, Frederick Goodsall, M.D., to Edyth Elwin, eldest daughter of the Rev. John Wright, late Rector of Falmouth.

HUNTER—DAVIDSON.—On July 13th, at the Presbyterian Church, Willesden, James Hunter, M.D., Dreghorn, Ayrshire, to Sarah Jane (Minnie), eldest daugnter of the late Dr. John Davidson, C.B., Inspector-General R.N.

KELLETT—BARCLAY.—On July 14th, at Moseley, by the Rev. F. Kellett, father of the bridegroom, assisted by the Rev. W. Wilson of Manchester, Alfred F. Kellett, M.B., B.S. Cantab., of Lewisham-road, Lewisham, S.E., to Margaret Eleanor (Nellie), second daughter of Thomas Barclay, of Arncliffe, Moseley, Birmingham.

OWEN—HUGHES.—On July 20th, at St. James the Less, Victoria Park, William Owen, Surgeon, Shore-road, South Hackney, to E. E. Hughes, widow of the late J. B. Hughes, Esq., Newport, Monmouthshire.

RICHARDS—PENNINGTON.—On July 18th, at St. Oswald's Church, Collyhurst, Manchester, by the Rev. A. W. Taylor, M.A., Rector, Arthur Izod Richards, M.R.C.S., L.S.A., youngest son of the Rev. George Richards, D.D., Rector of Marlingford, Norfolk, to Florence May, youngest daughter of the late Dr. T. R. Pennington, of Pembroke-place, Liverpool. No cards.

RODGERS—BOWMAN.—On July 13th, at St. Andrew's, Cambridge, by the Rev. H. Smith, J. H. Rodgers, L.R.C.P., L.R.C.S. Edin., Lincoln, to Florence E. Bowman, Darlington.

STAVELEY—NICHOL.—On July 20th, at St. Mary Abbott's, Kensington, by the Rev. H. B. Nichol, brother of the bride, assisted by the Rev. the Hon. E. Carr Glyn, Vicar of Kensington, and the Rev. E. D. L. Harvey, Rector of Downham Market, W. H. C. Staveley, F.R.C.S., of 13, South Eaton-place, S.W., second son of the late T. G. Staveley, of the Foreign Office, to Annie Maud, third daughter of the late Dr. Nichol, of Denmark-hill, S.E., and Mrs. Nichol, of 15, Brunswick-gardens, Kensington, W.

THORNTON—CLIVE.—On July 18th, at St. Mark's, North Audley-street, by the Hon. and Rev. Canon Bridgeman, uncle of the bride, assisted by the Right Rev. the Lord Bishop of Ripon and the Hon. and Very Rev. the Dean of Hereford, John Knowsley Thornton, of 22, Portman street, and Hildersham Hall, Cambridge, to the Hon. Mary Agnes Windsor Clive, youngest sister of Lord Windsor.

TRENTELS—LEMMENS.—On July 18th, at l'Église Évangélique, Rue du Musée, Brussels, by M. le Pasteur Rochedieux, Jules, eldest son of the late Guillaume Trentels, of Rue de la Pépinière, Brussels, to Ida Anne Caroline Florence, youngest daughter of the late Charles Daniel Lemmens, of Brussels.

DEATHS.

BURTON.—On July 9th, at Crumlin, co. Antrim, Dr. Bindon John Burton, aged 73.

CLARK.—On July 19th, at The Thorns, Sevenoaks, Frederick Le Gros Clark, F.R.S., F.R.C.S., in his 82nd year.

GEORGE.—On July 16th, at Colney-hatch, William Heming George, L.R.C.P. Edin., L.F.P.S. Glas., Senior Assistant Medical Officer of the London County Asylum, aged 40.

GRAY.—On July 13th, at Brigg, Lincolnshire, Charles Edward Gray, M.D., late Surgeon Royal Navy, and Physician, Melbourne Hospital, aged 44

HUSBAND.—On July 18th, at The Roost, Clifton, Bristol, William Dalla Husband, F.R.C.S., D.L., J.P. (late of York).

TYLDEN.—On July 16th, at Harewood-square, N.W., Henry John Tylden, M.D. Oxon., aged 35.

WEISS.—On July 4th, suddenly, while yachting at Gosport, Hubert Foveaux Weiss, F.R.C.S. Eng., L.R.C.P., L.M.R.C.P. Irel., F.R.G.S., F.R.M.C.S., M.W.I.M.C.S., late Assistant Surgeon at the West London Hospital, of 6, Granville-gardens, Ramsgate, and 27, Piccadilly, W., aged 37. Friends kindly accept this intimation.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

BOOKS ETC. RECEIVED.

BAILLIÈRE, TINDALL, & COX, King William-street, Strand, London.

Cardiac Outlines. By Wm. Ewart, M.D. Cantab., F.R.C.P. Illustrated. 1892. pp. 165.

CHURCHILL, J. & A., New Burlington-street, London.

A Treatise on Hygiene and Public Health. Edited by T. Stevenson, M.D., F.R.C.P. Lond., and Shirley F. Murphy. Vol. I. 1892. pp. 1013.

Saint Thomas's Hospital Reports. 1890. New Series. Edited by Dr. Hadden and Mr. Anderson. Vol. XX. 1892. pp. 483.

DAVIS, THE F. A., Co., Philadelphia and London.

Annual of the Universal Medical Sciences, 1892. Edited by C. E. Sajous, M.D., and 70 Associate Editors. Vols. I. to V.

DICKENS, CHAS., & EVANS, St. Bride-street, London.

Locke's Annual Register of Births, Marriages and Deaths. 1891. Vol. I.: Births and Marriages. With Index. 1892. pp. 527. Price 10s.

GRIFFIN, CHAS., & Co., Exeter-street, Strand, London.

Practical Sanitation. By G. Reid, M.D., D.P.H. With an Appendix on Sanitary Law, by Herbert Manley, M.A. Cantab., M.B., D.P.H. With Diagrams. 1892. pp. 300.

HODGES, FIGGIS, & Co., Grafton-street, Dublin; and WILLIAMS & NORGATE, London.

Royal Irish Academy. "Cunningham Memoirs." No. VII., July, 1892. Contributions by D. J. Cunningham, M.D., D.Sc. Dub., F.R.S., and Victor Horsley, M.B. Lond., F.R.S. With Plates. 1892. pp. 358. Price 15s.

HODGE, WM., & Co., Bothwell-street, Glasgow.

The Scottish Poor-laws: their History, Policy, and Operation. By Robert P. Lamond. New Edition, with Appendices. 1892. pp. 398.

KIMPTON, H., High Holborn, and HIRSCHFELD BROS., Fetter-lane, London.

Digestion and Diet Rationally Discussed. By Thomas Dutton, M.D. Durh. 1892. pp. 150. Price 2s.

KING, THORNE, & STACE, Brighton.

Medical Reports of the Davies Treatment in Phthisis Pulmonalis, discovered by W. and W. Davies, F.C.S. 1892. pp. 80.

LEWIS, H. K., Gower-street, London, W.C.

Alcohol and Public Health. By J. J. Ridge, M.D. 1892. pp. 91.

The Extra Pharmacopœia. By W. Martindale, F.C.S., and W. Wynn Westcott, M.B. Lond. Seventh Edition. 1892. pp. 524.

The Anatomy and Diseases of the Lachrymal Passages. By W. S. Watson, B.M. Lond. With Plates. 1892. pp. 55.

MURRAY, JOHN, Albemarle-street, London.

The Study of Animal Life. By J. A. Thomson, M.A., F.R.S.E. Illustrated. 1892. pp. 375. Price 5s.

PENTLAND, YOUNG J., Edinburgh and London.

Practical Pathology. By G. Sims Woodhead, M.D., F.R.C.P. Edin. Illustrated. Third Edition. 1892. pp. 652.

WATERLOW & SONS, London Wall, London.

Swin, Swale, and Swatchway. By H. Lewis Jones, M.A., assisted by C. B. Lockwood. 1892. pp. 203. Price 10s. 6d.

WRIGHT & Co., Bristol; and SIMPKIN, MARSHALL, & Co., London.

Ptomaines and other Animal Alkaloids. By A. C. Farquharson, M.D. 1892. pp. 152. Price 3s. 6d.

The Asclepiad, No. 34, Vol. IX., 1892 (Longmans, Green, & Co., London); price 2s. 6d.—Guide to Lucerne, the Lake, and its Environs, 1892; illustrated (Meyer's Printing Office, Lucerne). — Affleck's Popular Digest upon Income Tax, 1892-93 (Examiner Printing Works, Manchester); price 1s.—Some Thoughts about Nursing; by Oswald Browne, M.B. Cantab., M.R.C.P. (Griffith, Farran, & Co., London); price 6d. net.—The Treatment of Tuberculosis of Bones and Joints by Parenchymatous and Intra-articular Injections; by N. Senn, M.D., Ph.D., Chicago (reprint from Annals of Surgery, January, 1892).—Beiträge zur Protozoen-Forschung; von Dr. E. Pfeiffer; Heft 1 (August Hirschwald, Berlin, 1892).—The Official Gazette of the United States Patent Office, July, 1892 (Government Printing Office, Washington).—Proceedings of the Society for Psychical Research, Vol. VIII., July, 1892 (Kegan Paul, Trench, Trübner, & Co., London); price 3s. 6d.—The Blood: its Rotary Motion and Centrifugal Force; by C. H. Rosenthal, M.D., San Francisco, 1892.—The Strand Magazine for July.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 21st, 1892.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radiation in Vacuo	Maximum Temp. in Shade.	Min. Temp.	Rainfall.	Remarks at 8.30 A.M.
July 15	30·05	S.W.	57	53	91	65	53	—	Cloudy
,, 16	29·84	S.	63	59	106	73	54	..	Hazy
,, 17	29·79	N.E.	56	55	66	56	55	·74	Raining
,, 18	30·01	N.E.	55	49	107	63	52	·16	Cloudy
,, 19	29·94	W.	57	52	95	62	50	·11	Cloudy
,, 20	29·81	N.E.	58	55	105	64	53	·53	Cloudy
,, 21	30·23	N.E.	55	50	114	65	50	..	Fine

Notes, Short Comments & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

"HORRORS OF THE HIGHWAY."

UNDER this title we commented lately on the tremendous burden and strain imposed upon the horses engaged in the London omnibus service, particularly when, in addition to the excessive weight of th vehicle and its inmates, the frequent stoppages and "spurts" occasioned by passengers getting in or out or up and down, as the case may be, multiply the exertion of the poor animals tenfold. A Berlin correspondent, *à propos* of this latter feature of the service, suggests that "London should follow the example of Berlin in having halting-places at short distances apart. Of course," he adds, "it is somewhat trying to see the trams coolly pass one, and very great was my astonishment when I first came to find that the raising of my finger had no effect, except to elicit an amused smile from the conductor. Passengers are none the worse for this arrangement; on the contrary, they are much the better, when time is precious to them; and most certainly the horses must benefit by it." There is much to be said for this method of economising the horses' powers and the passengers' time, and its adoption from Berlin would be one of the least objectionable importations from that semi-military and rather rigidly organised capital.

G. Clarendon Hamilton, M.B.—In the case of perfect strangers it is reasonable that the medical man who acts on the emergency for his absent brother, should be promptly thanked and offered the half-fee; and this is a common rule. We can easily imagine such a fee being declined, but it is only reasonable on the part of the gentleman who has been so served to offer it.

J. Warington.—We can only refer our correspondent to our advertising columns.

St. Bernard.—We do not recommend practitioners.

OPHTHALMOSCOPY WITH ELECTRICITY.

To the Editors of THE LANCET.

SIRS,—Some few years ago at the Ophthalmological Society I remember seeing an ophthalmoscope shown by Mr. Juler, which had a small electric lamp attached to the mirror. I should be glad if any of your readers could inform me whether any London makers supply such an instrument, and at what price.

I am, Sirs, yours faithfully,

PHILIP JAMES, F.R.C.S.

Wellington, New Zealand, June 10th, 1892.

MEDICAL ADVERTISING.

THE following advertisement is from the *Walthamstow and Leyton Guardian* of July 9th. It is to be deprecated that a medical practitioner cannot cease connexion with a given address without advertising the fact in large type in a local paper:—

"Professional Notice!—Dr. Steven begs to intimate to the inhabitants of Walthamstow that he has severed all connexion with 4, High-street, and that in future his permanent address will be 41, Blackhorse-road."

The following has a distinctly trade advertisement character. It is from the *Manchester Evening News*:—

"Notice of Removal.—Dr. Comrie's consulting rooms for diseases of women and children removed to 199, Chester-road, Hulme, Manchester. Hours, 11 to 3 and 6 to 8."

Mr. T. W. Story.—We regret that it is manifestly beyond our province to be able to give our correspondent the information he requires.

FRACTURE OF THE NECK OF THE FEMUR.

To the Editors of THE LANCET.

SIRS,—About five years ago you most kindly inserted for me in THE LANCET one or two letters about an old lady, a centenarian, named Sarah Markham, of Roxby, Lincolnshire. At the time the letters excited a good deal of interest in her and brought her many friends. In early life Mrs. Markham was in the service of Tom Sheridan and helped to bring up his three daughters, who afterwards became most distinguished ladies, one of whom was the mother of the present Marquis of Dufferin. I now regret to say that recently Mrs. Markham died, not exactly from old age, but from the effects of a fall which she had on the eve of her birthday. The accident occurred through her throwing a basin of water out of her cottage door, the act causing her to slip or overbalance herself and thus in the fall she fractured, I am told, the neck of her femur. Mrs. Markham's birthday was on Royal Oak Day and she lived a month after the occurrence, so the days of the years of the life of the old lady were 107 years and one month—a goodly age, no doubt and one to which few of us can hope to reach. Perhaps the old lady living in Scamblesby in the so-called insanitary house, who is in her one hundred and third year, may reach or exceed the patriarchal age of Mrs. Markham. Mrs. Markham was a most intelligent woman and her fine memory and love for reciting poetry remained with her nearly to the end.

Fracture of the femur is a frequent cause of death in old people. I knew an active and healthy old gentleman ninety-six years of age who whilst in the act of jumping from the top of a five-barred gate in a field on his land, was blown down by a gust of wind and had his thigh bone broken, the injury causing his death. Several cases of a similar kind have come under my observation.

I am, Sirs, yours faithfully,

Lincoln, July 19th, 1892. WILLIAM O'NEILL, M.D.

AIR PASSING AUDIBLY BY THE VAGINA.

DR. SOCHAVA reports in a Russian medical journal the case of a patient who for some years had been annoyed by the audible passing of wind from the vagina whenever she lay down or reclined in an easy chair. On examination he found a defective development of the labia and nymphæ, which were rather rigid, and prolapsus of the anterior vaginal wall, so that the vagina was directly accessible to the entrance of atmospheric air. Every contraction of the vaginal walls of course expelled the air and so caused a certain amount of noise. Energetic treatment of the prolapsus led to a cure of this exceedingly troublesome condition.

Dr. Q. C. Smith (Austin, Texas).—No works on this general subject have been recently published. Our correspondent would find the books of Sir Joseph Fayrer and Dr. Ronald Martin useful.

THE ACTION OF HYDROCHLORATE OF COCAINE.

To the Editors of THE LANCET.

SIRS,—I have unhappily been a sufferer from nasal polypi (mucoid) for some years and from time to time I have them removed by the electric cautery. I have also had both lower turbinated bones chiselled out. I find that during the growth of the polypi, when of course there is considerable nasal catarrh, nothing gives me so much relief as painting the posterior nasal cavity with a 15 per cent. solution of hydrochlorate of cocaine; it contracts the polypi and the mucous membrane and arrests the thick mucus secretion, this relief lasting for perhaps two or three hours, when I usually repeat the application with a camel's hair brush. This use of the drug produces singing in the ears and a stunned feeling such as I have felt after the near discharge of heavy artillery; and of course, if any trickles on to the soft palate or fauces, it produces retching. The question I wish to ask is whether the use of cocaine in this way is likely to be injurious to health by causing tissue degeneration or in any other manner. Of course I do not swallow any of it, and the amount I use each time is about six drops. I shall be very grateful for an opinion in your columns.

I remain, Sirs, faithfully yours,

Frocester, Gloucestershire, July 13th, 1892. COCAINE.

THE WARMEST PLACE ON EARTH.

THERE are several of these "claimants" for the highest temperature on the habitable globe. The Central Sahara registers a mean of 97° in July. Central Australia boasts of 94° in January—a mean which is attained in South California and Inner Arabia in midsummer. But a recent report of the New York Meteorological Bureau tells us that a Californian Valley between seventy and eighty miles to the east of the Sierra Nevadas, running in a north-north-westerly and south-south-easterly direction between two mountain ranges—the Tuneral (6000 ft.) and the Amargosa (10,000 ft.)—has the highest temperature yet recorded. This valley lies below the sea-level at a depth variously estimated at from 100 ft. to 175 ft., and its reputation for excessive heat and extremely low humidity is built upon such tragic incidents as sudden death from insolation incurred by those who have ventured into it, culminating in the total extinction of an immigrant party from heat and thirst in 1850. The latter occurrence, indeed, gave it the title it goes by—"Death Valley." The report above referred to sets forth that in four months out of five during which readings were taken the mean temperature rose above 90°, in July and August exceeding 100°, while the mean for the entire period was not less than 94°. The minimum was usually above 70°, while an absolute maximum of 122° was registered on three successive days at the end of June and beginning of July. On July 18th, 1891, the New York meteorologists had the uncomfortable experience in Death Valley of spending a day in which the maximum temperature was 120°, the minimum 99°, and the mean of all hours 108·6°, while the hottest spell of all occurred from this day onward to July 24th, when the minimum never fell below 88° and the maximum ranged between 119° and 121°. The rainfall during the five months reached a total of only 1·40 inch. The winds, on the other hand, were of great force and frequency, those from the south prevailing every three or four days, while their velocity would rise from thirty miles an hour to over forty-five miles. Such gales were of but brief duration, but one of them, on June 17th, lasted from 10.40 A.M. till 6 P.M. as "one hot continuous blast," the temperature of the day being 112·6°. These high winds assume the character of the simoon of the Sahara, the loose, friable soil contributing clouds of sand, which often conceal the surrounding mountains. What with the heat and the nature of the soil, vegetation was extremely scanty, at the bottom of the valley indeed well-nigh non-existent. Animal life was hardly to be seen; the stinging gnat by day, and the snake, the lizard and horned toad by night were its only representatives. But for one transient flock of blackbirds no winged creatures were to be seen by the New York observers, who might have given the valley the name bestowed by Virgil on a similar region from the same phenomenon—viz., "Avernus" (or Aornos, from ἀ *not*, and ὄρνις *bird*).

"PSEUDO-CYESIS."

To the Editors of THE LANCET.

SIRS,—The case mentioned by Dr. Reynolds reminds me of one I had some years ago. A friend of mine, who was unfortunately suffering from an attack of typhlitis at the time, asked me to attend a confinement for him, as the friends had just sent a message to say the patient was in labour. On my arrival I found the patient sitting on the edge of the bed dressed in a petticoat and nightdress, and was informed that "niggling pains" had been coming on with regularity for some little time. Requesting the patient to get into bed, I "tried a pain," and what was my surprise on finding the cervix firm and the os quite small, while my hand on the abdomen felt no tumour in front. The general swelling was resonant on percussion and quite soft. The delight and surprise of the patient and her mother were great on my announcing the fact that it was a false alarm, as the patient was unmarried.

The striking point of similarity between this case and Dr. Reynolds' is the fact of both patients being unmarried women, and that having exposed themselves to the risk of impregnation the dread of becoming pregnant had produced symptoms of the result they both feared. In my case the mother had engaged my friend at the fourth month, and the patient herself had remained in-doors since the cessation of the menses a month after connexion.

I am, Sirs, yours faithfully,

Southfields, S.W., July 18th, 1892. CECIL ROBERTSON, M.B., C.M.

THE ETHICAL ASPECT OF AGREEMENTS TO SERVE ON MEDICAL AID SOCIETIES.

A CORRESPONDENT invites us to comment on the ethical side of such agreements. We may take an opportunity of doing so when occasion arises. Meantime each man who accepts such appointments ought to consider for himself the ethical as well as the legal aspects of his action. He may easily imagine that the whole profession of a town would not discountenance the holders of such appointments if there were not something questionable in accepting them. Are we to understand that in his Society as much as a guinea is charged for attending a whole family per year? May we ask if there is a wage-limit, and what proportion of the families pay this sum?

FUNERAL REFORM.

THE Registrar-General has written the following letter to the Secretary of the Funeral Reform Association:—

"Although prompt registration is very desirable, long journeys to the registrar in order to effect it prior to interment may be dispensed with. By transmission of a medical certificate of cause of death to the registrar through the post, accompanied by a stamped envelope for reply, the friends of a deceased person may obtain from that officer by return of post a certificate of notification of death, which for burial purposes is of like value with his certificate of registration. The death can then be registered on the first visit of the registrar to the neighbourhood in which the death took place. The Registrar-General is of opinion that anything in the nature of provisional death registration could only have the effect of adding to the trouble of informants, since, unless the registration practice of the last half-century were reversed, it would always be necessary that their signatures should be attached to the entries made by the registrar."

"MEDICAL AID ASSOCIATIONS."

To the Editors of THE LANCET.

SIRS,—Your correspondent "Verax" may have had very unfavourable treatment during his career as assistant and may feel even a relief in his present position, but I fear the shoe will pinch him some time. His scarcely veiled threat of the action of the friendly societies (not very friendly to the medical profession) through the House of Commons might be treated with the contempt it deserves if it were not for the miserable want of cohesion in our profession. A strong trade union is the most drastic and perhaps effectual remedy, but one to which only despair will drive us. Surely, even "Verax" would join such a union if he saw that it is only the *abuse* of his friendly society institution we complain of. Your correspondent does not appear to consider in his calculation that £300 would not pay the working expenses of many practices, nor does he state that his clients pay him a penny per week per head; the usual payment in such institutions is much lower. The fact of the matter is this. The profession is being degraded by low contracts with people able to pay moderate fees, and such men as "Verax" are assisting to degrade the profession and pauperise the people. They are not the only sinners, but their position being a public one they are more prominent. The secondary impression upon the mind of the public that medical services are worth little or nothing is a most serious one; and when we have all had enough of it, as I have already, we may hope that reform will begin. Meanwhile we must "possess our souls in patience."

I am, Sirs, your obedient servant,

Loughborough, July 15th, 1892. J. B. PIKE.

THE OUT-PATIENT DEPARTMENT.

To the Editors of THE LANCET.

SIRS,—The thanks of all London practitioners, especially of those living in the neighbourhood of the great hospitals, is due to you for your article on the out-patient system in your last issue. The usual excuse alleged by the hospital authorities for the existing state of things is that these out-patients are necessary for the training of the students; but of what use is it to train them for the practice of their profession unless there is something for them to do when they are trained? We are at the season of the year when parents and guardians are making their arrangements for entering their sons and wards as medical students. Let them fully consider what they are doing before they spend their money in preparing them for a profession in which there is so little chance of earning a decent living. Why do we not hear more of the "hardships" of the general practitioner's life? Because to make them known is to proclaim himself to be one of "those whom it is not generally desirable to protect."

I am, Sirs, yours faithfully,

July 19th, 1892. A GENERAL PRACTITIONER.

MEDICAL ASSOCIATIONS AND MEDICAL LEGISLATORS.

THE Mississippi Valley Medical Association boasts one great advantage over similar bodies—"that nothing can be discussed during the session save and except science." All ethical matters are referred to committees whose decisions are final. "Precious time is not allowed the demagogue or the medical legislator." Does the Mississippi Association mean to imply that "demagogues and medical legislators" are allowed too much rope in other scientific medical bodies? The charge is a curious one, which we leave other associations to answer.

A COASTING TRIP.

To the Editors of THE LANCET.

SIRS,—I am anxious to get as much sea air as possible during a short holiday, and see that steamers are advertised to sail from Liverpool round the north of Scotland to Leith. Can any of your readers tell me whether there is suitable accommodation for a lady on such steamers? I do not, of course, mean Atlantic liner style, but such as would make the trip endurable if the weather was bad enough at times to make it necessary to be a good deal down below.

I am, Sirs, yours truly,

July 19th, 1892. A. E.

MINERS' STRIKES AND THE PROFESSION.

To the Editors of THE LANCET.

SIRS,—May I be allowed to ask your opinion on a certain matter which affects not only myself, but nearly all the practitioners in colliery districts in this county?

First, I would state that we practitioners receive our money (that which comes from the miners) on a kind of club system, every miner paying 6*d.* per fortnight, which covers attendance on himself and family for the ensuing fourteen days. As a rule this is collected by the overmen at the various pits, the 6*d.* being stopped out of each man's pay, for which service we have to pay the overman 10 per cent. or 7½ per cent. of the gross amount. In consequence of the recent strike in the county the miners' subscriptions were never deducted during ten of the twelve weeks. During the first fortnight of the strike, however (at this colliery at any rate), 6*d.* per man was kept off the week's money that the owners keep in hand. The amount to which we are entitled therefore is 2*s.* 6*d.* per man. We have been working the whole time in the same way as if the subscription had been going on as usual, fully expecting that the men would fulfil their part of the contract, which they as a body refuse to do, although many of them individually are honest enough to pay. The question I wish to ask is, can we legally claim the 2*s.* 6*d.* back money? If so, it will be a great boon to many practitioners beside myself; for when one has, say, 500 subscribers and perhaps fifty of them pay their just debts it means a clear loss of £56 10*s.*, besides the fact that working expenses (drug bills, assistants' salaries, horse and trap, &c.) have been going on all the time.

I shall be greatly obliged if you will give me your opinion on the matter and I will communicate with the neighbouring practitioners.

I am, Sirs, yours faithfully,

R. E. INGRAM-JOHNSON.

Chester-le-Street, Durham, July 19th, 1892.

*** We think the recovery of the money might be very difficult. We presume our correspondent would have to prove a specific contract with each individual miner, and must take proceedings against each and not against any aggregate body. Our correspondent has our hearty sympathy.—ED. L.

SALE OF PRACTICES.

To the Editors of THE LANCET.

SIRS,—Can any of your readers inform me how the measurement of the distance is determined in the case of selling a London practice? Is it according to the nearest cab route, or as the crow flies? What is the customary limit in the sale of a West-end practice, and for how many years is it reasonable to prohibit practice in the locality?

I am, Sirs, yours faithfully,

July 17th, 1892. LEONARD.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Althaus, London; Dr. Aitchison, Wallsend-on-Tyne; Messrs. Anderson and Co., Edinburgh; Mr. F. P. Atkinson, Surbiton; Mr. W. Adamson, Liverpool; Mr. Arrowsmith, Bristol; Mr. Blackett, London; Mr. James Braithwaite, Leeds; Messrs. Battle and Co., Paris; Mr. Stanley Boyd; Mr. Bobardt, Newbury; Mr. Baron, Manchester; Messrs. Bowen and McKechnie, London; Mr. Bennett, Liverpool; Mr. Byrne, East Finchley; Dr. Barker, Hungerford; Messrs. Burgoyne, Burbidges, and Co., London; Mr. Connon, Northumberland; Messrs. Clarke, Son, and Platt, London; Messrs. Curtis and Co., London; Dr. Collins, Birmingham; Mr. Cornish, London; Dr. W. A. Clarke, Fulham; Dr. Carey Coombs, Somerset; Dr. Crook, Margate; Dr. A. Doran; Dr. Léon D'Astros, Marseilles; Mr. De Bathe, St. Luke's; Mr. J. Theodore Dodd, London; Mr. Davids, Banbury; Messrs. Duncan, Flockhart and Co., Edinburgh; Dr. Jas. Edmunds, London; Messrs. Eason and Son, Dublin; Mr. Evans, Llanelly; Dr. A. G. R. Fullarton, London; Dr W. Garstein, Blackburn; Dr. A. Grose, Wilts; Messrs. Gardiner and Co., Wisbech; Mr. Walter Goodman, London; Mr. Griffith, Milford Haven; Mr. Hamer, London; Mr. Howitt, Carlisle; Dr. G. Clarendon Hamilton, Manor-park; Mr. Hornibrook, London; Mr. C. Henshaw, Southport; Mr. Heywood, Manchester; Messrs. Hargreave and Doidge, Suffolk; Mr. M. M. Jefferds, London; Mr. R. E. Ingram Johnston, Chester-le-Street; Mr. Jesse, Macclesfield; Mr. Philip James, Wellington, New Zealand; Mr. J. Brinley James, London; Surgeon-Lieutenant-Colonel R. Lewins, London; Dr. B. Lumley, Northallerton; Mr. Little, London; Mr. Levick, Paris; Mr. Albert Lund; Mr. Moore, Liverpool; Mr. Munro, Carlisle; Messrs. Mabbett and Edge, London; Dr. McDonald, California; Messrs. Marlborough and Co.; Messrs. Maund, London; Professor Middendorp, Germany; Mr. P. W. C. Nesup, Bournemouth; Dr. G. Lloyd Owen, Birmingham; Messrs. Orridge and Co., London; Mr. E. A. Piggott, Suffolk; Mr. Pensuti, Rome; Dr. Phillips, Birmingham; Mr. Carl Pearson, London; Mr. Potter, Liverpool; Mr. J. B. Pike, Loughborough; Mr. F. J. Redman, London; Dr. Renton, Oxford; Messrs. Reay and Co.; Dr. B. W. Richardson, London; Mr. C. Robertson, South Fields; Messrs. Robertson and Scott, Edinburgh; Dr. Romeo, Rio de Janeiro; Dr. G. E. Shuttleworth, Lancashire; Messrs. Street and Co., London; Dr. Steele, London; Mr. Scobell, London; Messrs. Street

Bros., London; Mr. C. Stonham, London; Mr. T. W. Storey, Batley; Dr. Q. C. Smith, Texas; Mr. Sanders, Cardiff; Dr. Steele, Portobello; Dr. Smith, Kettering; Mr. Strange, London; Messrs. Tayler and Co., London; Mr. Wheeler, Manchester; Messrs. Whitworth and Stuart, Manchester; Dr. Whittendale, Kenilworth; Mr. A. H. Scott White; Mr. Wilson, Leeds; Mr. Watt, London; Messrs. Wright and Co., Bristol; Dr. C. J. White, Bournemouth; Messrs. Wilson and Blessley, London; Mr. Webb, Bury; Messrs. Hyram Walker and Sons, London; Dr. James Wallace, Greenock; Mr. Roger Williams, Preston; Dr. Dawson Williams, London; P. A., London; Chadburn and Coldwell Manufacturing Co., London; Anglo-Swiss Condensed Milk Co.; X. Y.; S. D., London; Alpha, London; McIvor; Maltine Manufacturing Co.; Sister Kirby, Tottenham; University of Glasgow; Vincent, London.

LETTERS, *each with enclosure*, are also acknowledged from—Dr. Fraser, Manchester; Mr. Macdougall, Sussex; Dr. Elgood, Battle; Mr. Cox, Brooklyn, N.Y.; Dr. Griggs, Wheathampstead; Dr. Martin, Blackburn; Mr. Allison, Ayrshire; Dr. Gosford, Liverpool; Mr. Anderson, Carmarthen; Mr. Machell, Shanghai; Mr. Branch, Bath; Dr. Orr, Sittingbourne; Mr. Tyte, Minchinhampton; Mr. Spearing, Chelmsford; Dr. Sutcliff, Torrington; Mr. Thin, Edinburgh; Messrs. Keith and Co., Edinburgh; Rev. Dr. James, Winslow; Messrs. Oliver and Boyd, Edinburgh; Dr. Illingworth, Accrington; Messrs. Rowntree and Co., York; Dr. Wallace, Faringdon; Mrs. Cuthbertson, Rhondda Valley; Mr. Wilkes, London; Mr. Rodgers, Lincoln; Messrs. Godfrey and Cooke, London; Mr. Gardiner, Sydenham; Messrs. Cassell and Co.; Mr. Findlay, co. Durham; Dr. Lister, Chiselhurst; Mr. Hale, Chesterfield; Dr. Edwards, Wrexham; Mr. Johnstone, Edinburgh; Mr. Mountford, Coventry; Mr. Hibbert, St. Albans; Dr. McKelvie, Norwich; Mr. Fry, Wateringbury; Mr. Towner, Brighton; Mr. T. Smith, London; Dr. Carmichael, Barrow-in-Furness; Dr. Stewart, Aberdeen; Mr. Wilson, Birkdale; Mr. Brown, Tredegar; Dr. Joynt, Fiji Islands; Mr. Posnett, Huddersfield; Mr. Beville, East Molesey; Miss Poune, Eastbourne; Dr. Mackay, co. Durham; Dr. Duggan, co. Durham; Mr. Spicer, Chand; Dr. Brooks, Manchester; *British and Colonial Druggist*, London; Iris, London; Secretary, Rotherham Hospital; Veritas, London; T. D. A., London; Secretary, Victoria Hospital for Children, Chelsea; Obstetrician; Secretary, Bradford Infirmary; F. L. P. S., London; Rusticus; Secretary, Hospital for Women, Chelsea; Tutor, Newcastle-on-Tyne; Smedley's Hydropathic Establishment, Matlock; Gerald; Medicus, Sheffield; Warneford Asylum, Middlesex; H. B., Southport; Hector; Papain; Worcester General Infirmary; Tympanum, London; Devon, London; A, B. C., Goole; F. S., London; B., London; Armitage, London; Scolopax, London; M., Carlisle; E. W., London; Matron, Edinburgh; S. D., London; Wrekin, London; Truth, London; O. L., London; Babbin, London; A. K. L., London; L.S.A., London; 7, Chambers-street, Edinburgh; C. J. R., London.

NEWSPAPERS.—*East Anglian Daily Times, Leicester Daily Post, Liverpool Courier, Newcastle Chronicle, Birmingham Gazette, Law Journal, Western Mercury, Galignani's Messenger, Scottish Leader, Llandudno Advertiser, Scotsman, Bradford Observer, Sala's Journal, Windsor and Eton Gazette, Mining Journal, Reading Mercury, Local Government Chronicle, City Press, Surrey Advertiser, Insurance Record, Citizen, West Middlesex Advertiser, Hertfordshire Mercury, Le Temps (Paris), Weekly Free Press and Aberdeen Herald, Burton Evening Gazette, Windsor and Eton Express, Ashbourne News, South Wales Daily News, Builder, Leicester Journal, Le Courrier de la Presse, Home News, Local Government Journal, Oban Times, Architect, Yorkshire Herald, Batley News, Sunday Times, Times of India, Pioneer Mail, Madras Standard, Hereford Times, Darlington and Stockton Times, Donegal Independent, Donegal Vindicator, Sheffield Weekly Telegraph, English Mechanic, North British Daily Mail, Manchester Guardian, Sussex Daily News, Dundee Advertiser, Sanitary Record, Manchester Evening News, &c.*, have been received.

Medical Diary for the ensuing Week.

Monday, July 25.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M., and on Tuesday, Wednesday, Friday, and Saturday at the same hour.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations daily at 10 A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M. and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.
UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M.

Tuesday, July 26.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays at the same hour.
GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electrotherapeutics, same day, 2 P.M.

Wednesday, July 27.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1.30 P.M.; Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M., and on Thursday and Friday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.
ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M.; Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.

Thursday, July 28.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.

Friday, July 29.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, July 30.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

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